F. A. De MARCO

ENGINEERING

GENERAL ANNOUNCEMENT

ASSUMPTION UNIVERSITY OF WINDSOR

UNIVERSITY COLLEGE

ESSEX COLLEGE

HOLY NAMES COLLEGE

HOLY REDEEMER COLLEGE

CANTERBURY COLLEGE

1960-1961

ASSUMPTION UNIVERSITY OF WINDSOR

WINDSOR, ONTARIO, CANADA

•

GENERAL ANNOUNCEMENT
1960-61

•

UNIVERSITY COLLEGE

ESSEX COLLEGE

HOLY NAMES COLLEGE

HOLY REDEEMER COLLEGE

CANTERBURY COLLEGE

•

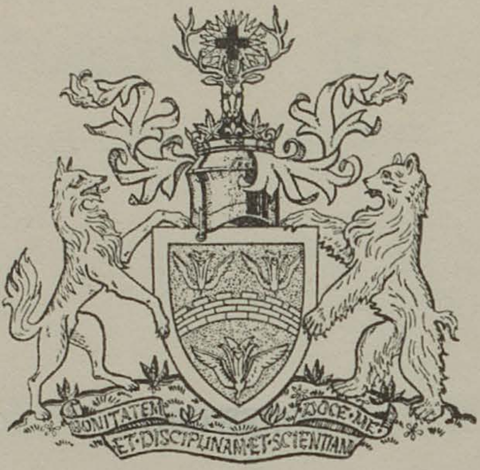
ARTS AND SCIENCE, BUSINESS ADMINISTRATION,
ENGINEERING, NURSING, THEOLOGY,
GRADUATE STUDIES.

FOREWORD

"The proper and immediate end of a Christian education is to co-operate with divine grace in forming the true and perfect Christian. . . . For precisely this reason Christian education takes in the whole aggregate of human life, physical and spiritual, intellectual and moral, individual, domestic and social, not with a view of reducing it in any way, but in order to elevate, regulate and perfect it, in accordance with the example and teaching of Christ."

POPE PIUS XI, *Christian Education of Youth*

ARMORIAL BEARINGS OF ASSUMPTION UNIVERSITY OF WINDSOR



Upon achieving university status Assumption College petitioned the Earl Marshall, the Duke of Norfolk, for a grant of armorial bearings. In virtue of a warrant issued by His Grace on September 24, 1953, the Kings of Arms granted armorial bearings on March 3, 1955, described as follows:

Coat-of-arms: Azure a Fesse embattled and enarched Or Masoned Sable between three Lily flowers proper Winged Gold all within a Bordure of the last

Crest: Out of a Coronet composed of Fleurs de lys Or and Maple leaves Gule set alternately upon a Rim Gold a Stag's head and neck affrontée proper between the antlers a Cross Sable rayonée also Gold

Supporters: On the dexter side a Wolf and on the sinister side a Bear proper

Motto: "Bonitatem et disciplinam et scientiam doce me" (Psalm 118)

The winged lilies represent the Assumption of the Blessed Virgin, and the bridge symbolises the function of a University in uniting segments of society as well as races and nations; the stag's head is taken from the arms of the City of Windsor, the sun alludes to the County of Essex, the Greek cross represents St. Basil the Great, patron of the Basilian Fathers, the fleurs de lys and maple leaves symbolise the French and Canadian founders of Assumption College; the wolf is taken from the armorial bearings of St. Ignatius Loyola, founder of the Jesuits (who initiated the College), and the bear from the arms of Rt. Rev. A. Macdonell, first Bishop of Regiopolis (Kingston) who obtained title from the crown in 1830 for the land upon which the university is located.

CONTENTS

Page

Foreword 3

Calendar 7

Administrative Boards 8

Senate 12

Advisory Council 14

Officers of Administration 15

Historical Statement 17

General Information 19

Fees 27

Financial Aid for Students 29

Admission Requirements 40

Academic Regulations 44

Faculty of Arts and Science 50

School of Business Administration 79

Faculty of Applied Science 158

Faculty of Graduate Studies 180

Faculty of Theology 208

Extension Division 213

Summary of Registration 214

Basilian Institutions 215

Forms of Bequest 216

ASSUMPTION UNIVERSITY OF WINDSOR

is a full member of

The University Matriculation Board of Ontario

The National Conference of Canadian Universities and Colleges

The Association of Universities of the British Commonwealth

1960

S	M	T	W	T	F	S
JANUARY						
....	....	....	....	....	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	....	....	....	....	....	....
FEBRUARY						
....	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	....	....	....	....	....
MARCH						
....	....	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	....	....
APRIL						
....	....	....	....	....	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
MAY						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	....	....	....	....
JUNE						
....	....	....	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	....	....

S	M	T	W	T	F	S
JULY						
....	....	....	....	....	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	....	....	....	....	....	....
AUGUST						
....	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	....	....	....
SEPTEMBER						
....	....	....	....	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	....
OCTOBER						
....	....	....	....	....	....	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	....	....	....	....	....
NOVEMBER						
....	....	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	....	....	....
DECEMBER						
....	....	....	....	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1961

S	M	T	W	T	F	S
JANUARY						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	....	....	....	....
FEBRUARY						
....	....	....	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	....	....	....	....
MARCH						
....	....	....	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	....
APRIL						
....	....	....	....	....	....	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	....	....	....	....	....	....
MAY						
....	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	....	....	....
JUNE						
....	....	....	....	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	....

S	M	T	W	T	F	S
JULY						
....	....	....	....	....	....	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	....	....	....	....	....
AUGUST						
....	....	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	....	....
SEPTEMBER						
....	....	....	....	....	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
OCTOBER						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	....	....	....	....
NOVEMBER						
....	....	....	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	....	....
DECEMBER						
....	....	....	....	....	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	....	....	....	....	....	....

ACADEMIC CALENDAR

1960

July 5, Tuesday, to August 13, Saturday (inclusive)—	Summer session.
September 21, Wednesday—	First semester begins.
September 21, Wednesday, to September 24, Saturday—	Registration (undergraduate).
September 26, Monday—	Lectures begin. Late registration penalty (see p. 27).
September 29, Thursday—	Registration for graduate students.
October 8, Saturday—	Last day of registration for full-time students.
October 10, Monday—	Thanksgiving Day. No classes.
November 4, Friday—	Fall Convocation.
December 8, Thursday—	Patronal Feast of the University. No classes.
December 17, Saturday—	Christmas recess begins at 12 noon.

1961

January 4, Wednesday—	Lectures resume.
January 14, Saturday—	First semester ends.
January 16, Monday—	Second semester begins.
January 16, 17, 18—	Mid-year final examinations.
February 16, Thursday, and February 17, Friday—	Annual Retreat.
March 30, Thursday, to April 3, Monday (inclusive)—	Easter recess.
April 21—	Last day of lectures.
April 28 to May 13—	Spring final examinations.
May 13, Saturday—	Second semester ends.
June 3, Saturday—	Spring Convocation.

ASSUMPTION UNIVERSITY OF WINDSOR
BOARD OF GOVERNORS

Members ex officiis:

Very Rev. E. Carlisle LeBel, C.D., C.S.B., M.A., **Vice-Chancellor and President,** *Chairman.*

Very Rev. Francis L. Burns, C.S.B., Ph.D., **Superior.**

Rev. Norbert J. Ruth, C.S.B., M.A., **Dean of Arts and Science.**

Rev. Edwin C. Garvey, C.S.B., Ph.D., **Principal, University College.**

Rev. E. Arthur Roberts, C.S.B., B.A., S.T.B., **Treasurer.**

Very Rev. George B. Flahiff, C.S.B., B.A., Archiviste-Paléographe Diplômé de l'Ecole des Chartes (Paris), Superior-General of the Basilian Fathers.

Elected members:

Rev. Peter J. M. Swan, C.S.B., Ph.D., **Executive Vice-President and Registrar,** *Secretary.*

Rev. Daniel J. Mulvihill, C.S.B., Ph.D., **Vice-President, Development.**

Representatives:

One representative appointed by each of the affiliated colleges.

BOARD OF REGENTS

Anthony F. Fuerth, K.S.S., *Chairman.*

Rev. D. J. Mulvihill, C.S.B., Ph.D., *Secretary.*

The President and Treasurer of the University, *ex officiis.*

The Chairmen of the Boards of Directors of the affiliated colleges, *ex officiis.*

James H. Barth
J. Edward Campeau
W. Henry Cantelon
G. Arthur Dew
Samuel E. Dinsmore

Harry E. Gignac, K.C.S.G.
Eli C. Goldin, LL.D.
Jerome R. Hartford, B.A.
H. Clifford Hatch
Frank J. Hogan
Eric B. Lavelle
Miss Helen M. McTague, Q.C.
John E. Marshall, B.A.
William D. Merlo
Max N. Mousseau
William P. Park
James C. Pennington, M.R.A.I.C.
Philip A. Rudge
Leo J. Ryan
Rhys M. Sale, LL.D.
Daniel Scouler
Frank T. Sherk
John J. Stuart, B.Comm.
Ronald W. Todgham
Anthony T. Wachna, B.A., M.D.
William R. Waddell, M.D.
George R. Weller
George Herbert Zimmerman, B.C.S.

Change set-up

ESSEX COLLEGE

smaller type

BOARD OF DIRECTORS

Rhys M. Sale, LL.D., *Honorary Chairman.*
John W. Whiteside, B.A., *President.*
William T. Grant, B.Comm., *Vice-President.*
Raymond J. Lyons, *Vice-President.*
The President of the University, *ex officio.*

Wales
Morris
Controller

William H. Arison, B.A.Sc., P.Eng., M.C.I.C., A.I.Ch.E.
William J. Carter, M.R.A.I.C., P.Eng.
Joseph R. Deane, LL.B.
William A. Harrison
G. Malcolm Morton, B.A., M.D., M.Sc., F.R.C.S.(C.), F.A.C.S.
John M. Page, C.A. also BA ?
William P. Park
S. J. Stodgell
Richard J. Waddington, B.A.Sc., P.Eng.
James E. Watson, B.A., Q.C.
George R. Weller

admin staff [illegible]
[illegible]
CV
[illegible]
Ball [illegible]

HOLY NAMES COLLEGE
BOARD OF DIRECTORS

Sister Marian Dolores, S.N.J.M., Ph.D., **Principal,** *Chairman.*
Sister Pauline of Mary, S.N.J.M., M.A., *Secretary.*
Sister Michael Mary, S.N.J.M., B.A., *Treasurer.*
Sister Charles of Jesus, S.N.J.M., B.A.
Sister Louise-de-France, S.N.J.M., M.A., Provincial Superior of the Sisters of the Holy Names of Jesus and Mary.

HOLY REDEEMER COLLEGE
BOARD OF DIRECTORS

Very Rev. Gerard Owens, C.Ss.R., S.T.L., **Principal,** *Chairman.*
Very Rev. J. Arthur Ryan, C.Ss.R., Ph.D., Provincial Superior of the Redemptorist Fathers, *Vice-Chairman.*
Rev. George O'Reilly, C.Ss.R., *Secretary-Treasurer.*

CANTERBURY COLLEGE
BOARD OF DIRECTORS

The Right Reverend George N. Luxton, B.A., B.D., LL.D., D.D., Bishop of Huron, *Chairman.*

Clifford H. Musson, *President.*

Rev. Canon Frank C. McRitchie, C.D., B.A., *First Vice-President.*

Rev. Arthur D. Brown, B.A., L.Th., *Second Vice-President.*

Henry W. Harding, *Secretary.*

Cyril B. Hallam, B.A., *Treasurer.*

The Ven. Archdeacon M. C. Davies, B.A.

Rev. Canon G. A. Ruskell, M.A.

Rev. Canon Bertram A. Silcox, B.A., L.Th.

Rev. Canon John H. Whealen, B.A., L.Th.

Rev. Walter B. Cunningham

Douglas J. Broadwell, M.D., C.M.

Mrs. Wallace R. Campbell, O.B.E., LL.D.

Luther C. Clarke, B.A.

Gordon E. Hunt

Charles A. Laing, M.D., M.Sc., F.R.C.S.

George E. Marshall, B.A.

Lt.-Col. George Y. Masson, F.R.A.I.C.

W. Glyn Rogers

John R. Shuel

THE SENATE OF
ASSUMPTION UNIVERSITY OF WINDSOR

Members ex officiis:

The Chancellor
The Vice-Chancellor and President
The Executive Vice-President
The Principal of each constituent and affiliated College
The Dean of each Faculty
The Associate Dean of Arts and Science
The Librarian
The Registrar
The Dean of Women
The Director of Extension
The Director of each School
The Head of each Department in the Faculty of Arts and Science
T. C. White, B.A., B.Paed., **Director of Education of Windsor.**
Miss Gladys Shepley, B.A., B.L.S., **Chief Librarian of Windsor.**
J. Howie, M.D., C.M., D.T.M., D.P.H., **Medical Officer of Health of Windsor.**
Judge Albert J. Gordon, **Senior Judge of Essex County.**
A. Burrell, B.S.A., **representative of the Ontario Department of Agriculture in Essex County.**

Elected Members:

F. J. Chauvin, B.A., Barr.-at-Law; P. L. McManus, B.A.; **by the graduates.**
R. A. Helling, M.A.; R. J. Thibert, Ph.D.; **by the Faculty of Arts and Science.**
A. W. Gnyp, M.A.Sc., Ph.D.; H. P. Herbich, D.Sc.(Eng.); **by the Faculty of Applied Science.**
K. G. Rutherford, Ph.D.; W. L. White, M.A.; **by the Faculty of Graduate Studies.**
Rev. E. J. Crowley, C.Ss.R., B.A., S.T.L., S.S.L.; Rev. D. L. Egan, C.Ss.R., S.T.L.; **by the Faculty of Theology.**

Appointed Members:

Maurice Adelman, Ph.D., **Chairman, Department of Chemical Engineering.**
W. P. Augustine, M.E.I.C., **Border Cities Branch, Engineering Institute of Canada.**
Philip T. Badour, **Local 195, U.A.W.-C.I.O.**
Alderman John H. Charlton, **Windsor City Council.**
Charles Cohen, **Congregation Shaar Hashomayim.**
Miss Eleanor Cruickshank, B.A., **University Women's Club of Windsor.**
W. A. Donohue, **Sarnia City Council.**
F. J. Furlong Sr., D.D.S., **Essex County Dental Association.**
A. A. Gilroy, B.A., **Public School Inspectors of Essex and Kent Counties.**

P. J. Gleeson, B.A., **District 1, Ontario Secondary School Teachers' Federation.**

F. G. Holmes, **Essex County Pharmacists' Association.**

Gordon R. James, R.I.A., **Windsor Chapter, Society of Industrial and Cost Accountants of Canada.**

Michael A. Korol, B.S.A., M.Sc., **Essex-Kent Section, Chemical Institute of Canada.**

W. T. Laing, B.A., **Inspectors of Secondary Education of Essex and Kent Counties.**

Norman R. Langlois, B.A., **Windsor Separate School Board.**

Rt. Rev. Monsignor W. J. Langlois, D.P., P.P., **Roman Catholic Deanery of Essex.**

H. J. Lassaline, M.A., **Windsor Chamber of Commerce.**

Mrs. F. S. McGuire, Reg.N., **Windsor-Essex County Chapter, Registered Nurses Association of Ontario, District 1.**

W. Harold MacKay, **Windsor and District Chartered Accountants Association.**

A. M. McNamara, B.A., **Separate School Inspectors of Essex and Kent Counties.**

G. A. McTague, M.D., **Essex County Medical Society.**

David Mahon, B.A., **District 17, Ontario Secondary School Teachers' Federation.**

Harold J. O'Brien Jr., B.A., **Chatham City Council.**

C. J. O'Gorman, B.A., **Essex County Council.**

Joseph Ord, B.A., **Windsor Board of Education.**

Rev. G. D. Petrie, **Windsor Council of Churches.**

Henry Renaud, **Local 200, U.A.W.-C.I.O.**

Alderman William C. Riggs, **Windsor City Council.**

Sam Sasso, **Windsor and District Labour Council.**

M. M. Sumner, **Jewish Community Council.**

H. D. Taylor, M.D., **Windsor Board of Education.**

Eugene Whelan, **Essex County Council.**

B. H. Yuffy, **Essex Law Association.**

Representatives-at-large appointed by the Senate:

Miss E. Margaret Bowlby
William D. Conklin, Q.C.
Miss Claire Coughlin
A. R. Davidson
R. W. Keeley
Judge J. A. Legris
J. A. Marsh
G. E. Marshall
N. F. Morrison, Ph.D.
Leo Sylvestre

Officers of the Senate:

Chairman: The Vice-Chancellor and President
Secretary: The Registrar

Executive Committee:

The President, *Chairman;* the Executive Vice-President; the Registrar; the Dean of Arts and Science, the Associate Dean of Arts and Science, the Dean of Applied Science, the Dean of Graduate Studies, the Dean of Theology; the Principal of each affiliated College; the Director of the School of Business Administration; the Director of Extension.

THE ADVISORY COUNCIL

R. M. Agnew
Mrs. W. P. Augustine
Miss Jean Beasley
A. J. Beckler
E. T. Berry
Ernest Beuglet, M.D.
M. F. Brobst
A. P. Chauvin
A. D. Cherniak
M. F. Coughlin
Mayor Arthur Cullen (Leamington)
Mrs. Lila Doyle
Mayor E. T. Laframboise (Amherstburg)
Dr. A. J. Jacques
Dr. L. W. Koch, Mayor (Harrow)
T. Kovinsky
A. Liddell
John McCabe, M.D.
Lt. Col. Bruce MacDonald, Q.C.
J. A. McPharlin
Mrs. Herman Markham
J. E. Marshall, B.A.
Milton Meretsky deceased
Mrs. Gordon Miller
D. R. Morand, Q.C.
Miss Gladys Munnings
Miss Helen Murphy
H. F. Murwin
P. D. Norton
Mayor Michael Patrick (Windsor)
Col. Paul Poisson, M.D.
Mayor E. J. Queen (Essex)
John Raeside
J. J. Riordan
Mayor R. Gordon Stewart (Riverside)
Mayor R. S. Newberry (Wallaceburg)
Mayor Harold Cull (Kingsville)
Mrs. W. R. Whiteside
J. W. Whiteside, B.A.
J. S. Young, M.D.

OFFICERS OF ADMINISTRATION

Chancellor
His Excellency the Most Reverend John Christopher Cody, D.D., LL.D., Bishop of London.

Superior
Very Rev. Francis Leo Burns, C.S.B., Ph.D.

Vice-Chancellor and President
Very Rev. Eugene Carlisle LeBel, C.D., C.S.B., M.A.

Executive Vice-President and Registrar
Rev. Peter Julian Michael Swan, C.S.B., Ph.D.

Vice-President, Development
Rev. Daniel Joseph Mulvihill, C.S.B., Ph.D.

Treasurer
Rev. Edward Arthur Roberts, C.S.B., B.A., S.T.B.

Dean of Arts and Science
Rev. Norbert Joseph Ruth, C.S.B., M.A.

Dean of Graduate Studies
Rev. C. P. J. Crowley, C.S.B., Ph.D.

Dean of Applied Science and Principal of Essex College
Frank A. DeMarco, Ph.D., F.C.I.C.

Principal of University College
Rev. Edwin Charles Garvey, C.S.B., Ph.D.

Principal of Holy Redeemer College
Very Rev. Gerard Owens, C.Ss.R., S.T.L.

Principal of Canterbury College
Rev. Robert Spencer Rayson, M.A., S.T.B., D.D.

Dean of Women and Principal of Holy Names College
Sr. Marian Dolores, S.N.J.M., Ph.D.

Dean of Men
Rev. Donald Thomas Faught, C.S.B., M.A.

Director of Extension
Rev. Edward Cecil Pappert, C.S.B., Ph.D.

Director of the Christian Culture Series
Rev. J. Stanley Murphy, C.S.B., M.A.

Director of Dramatics and of Radio-TV Programs
Rev. Cornelius P. J. Crowley, C.S.B., Ph.D.

Director of Development and Public Relations
John Edward Thompson, M.C., B.A.

Rev. John Alphonse Malone, C.S.B., Ph.D., Assistant Dean of Men.

Lillian Margaret McCarthy, Ph.D., Assistant Dean of Women.

Roger James Schifferli, B.A., Alumni Secretary.

Barbara Helen Birch, M.A., Assistant Registrar.

Margaret Anne Masterson (Mrs. K. B.), B.A., Assistant to Registrar.

Joseph E. Schiller, B.A., Accountant.

Madeleine Suzanne Beaupré, Assistant to the Treasurer.

Cecil Vere Waters, F.C.I.S., Business Administrator, Essex College.

Nairn

Helen Haberer (Mrs. A.), Secretary to the President.

Iris Gnyp, B.A. (Mrs. A.), Secretary to the Dean of Arts and Science.

Dorothy Margaret Faulkner (Mrs.), B.A., Secretary to the Dean of Applied Science.

Library Staff

William F. Dollar, M.A., A.M.L.S., Librarian.

James Emery Kanyasi, B.Sc., A.M.L.S., Head, Science Department.

Albert V. Mate, M.A., A.M.L.S., Head, Reference Department.

Etta L. Bruce, B.A., B.L.S., Cataloguer.

Julija Baumanis (Mrs.), Grad. Agron. (Riga), A.M.L.S., Assistant Science Librarian.

Hosna Massouda, B.Sc., Circulation Department.

Cleva M. Fallon (Mrs. Wilfrid), Acquisitions Department.

Elizabeth McGaffey (Mrs.), Reference Assistant.

Athletic Staff

Rev. John Michael Hussey, C.S.B., M.A., Faculty Moderator of Athletics.

Richard James Moriarty, M.A., Director of Athletics for Men.

Elizabeth Colborne (Mrs. W.), B.Sc. (P.Ed.), Director of Athletics for Women.

University Naval Training Division

Lt. Commander C. John Metcalfe, R.C.N. (R), B.A., Commanding Officer.

Lieut. (TAS) Thomas Smith, R.C.N. (R), B.A., Staff Officer.

Canadian Officers Training Corps

Major C. M. J. F. Swan, Ph.D., Officer Commanding.

Royal Canadian Air Force University Squadron

F/L W. L. White, D.F.C., M.A., Faculty Air Force Representative, A. U. W.

F/L C. Mullins, Resident Staff Officer, U. W. O.

HISTORICAL STATEMENT

Assumption University of Windsor traces its origin to the inception of Assumption College, which opened its doors on February 10, 1857. The foundation stone of the first building had been laid on June 17, 1855, largely through the efforts of Father Pierre Point, S.J., pastor of Assumption parish in Sandwich. This Parish, established as a mission in 1748 and raised to the dignity of a parish in 1767, is the oldest in Canada west of Montreal.

Almost from the beginning, education was of great interest to those in charge of Assumption Parish. There are records of an attempt to found a school near the Church as early as 1782; four years later the first elementary school was opened. During the first half of the nineteenth century sporadic efforts were made to establish a secondary school or college, but with short-lived success. These efforts, however, finally led to the establishment of "Le Collège de l'Assomption" in 1857, with M. Theodule Girardot as first instructor.

The College was incorporated by a public Act of the Legislature of the province of Canada which received Royal Assent August 16, 1858. The Corporation consisted of the Bishop of London and the faculty of the College. The Act gave the corporation "full power to make and establish such and so many rules, orders and regulations (not being contrary to the laws of the country or this Act) as they shall deem useful or necessary, as well concerning the system of education in as for the conduct and government of the said College, and of any other institution or school connected with or dependent on the same" (22 Victoria 136).

This Act was passed during the Superiorship of the Basilian Father Joseph Malbos, who guided the College for one year. After his departure the Jesuits, the Benedictines, and the secular clergy were in charge successively. Finally the Basilians returned in 1870, and the vigorous administration of Father Denis O'Connor (later Bishop of London, and Archbishop of Toronto) laid the foundations of the steady progress that has continued to this day.

The curriculum consisted originally of the classical and commercial courses. To these Father O'Connor added two years of Philosophy, giving the institution a complete high school and Arts course. For many decades the prime concern of Assumption was preparing students for admittance to theological seminaries, although many of her alumni entered business and professional spheres.

Early in the present century more formal institutions were established in the area for the training of the clergy, and hence a change of emphasis came in the purpose and curricula of the College. This change led in 1919 to affiliation with Western University, London, Ontario (now the University of Western Ontario). By mutual agreement Assumption College became an integral part of the University's Faculty of Arts and Science. From this time on, Assumption students undertook the same courses and examinations as those in other parts of this Faculty, and received their degrees from the University.

During the next thirty years the curriculum was broadened to include General and Honours Courses in Arts and Science, leading to Bachelor of Arts and Bachelor of Science degrees, graduate work in Philosophy leading to the Master of Arts degree, as well as pre-professional programs such as pre-engineering, pre-law and pre-medicine. In this way the College was enabled to prepare its students for many walks of life.

Opportunities for higher education were extended to the women of this area through the opening in 1934 of Holy Names College by the Sisters of the Holy Names of Jesus and Mary, long prominent in local education. From its inception the new College for women was affiliated with Assumption College, which contributed lecturers and general supervision. After occupying space for sixteen years in St. Mary's Academy, South Windsor, Holy Names College moved to the main campus of Assumption, which now became co-educational through the merging of the faculties and student bodies of both institutions. Holy Names College continued to provide residence and other facilities for women students, and to contribute instructors to the combined faculty.

In 1953 the Ontario Legislature passed an Act amending the original Act of 1858. This legislation established a new government for the College, consisting of a Chancellor, President, Board of Governors and Senate. It stated further, "The College shall have university powers, including: (a) The power to establish and maintain such faculties, schools, institutes, departments, chairs and courses of instruction as may be determined by the Board; (b) The power to confer university degrees and honorary degrees and awards in any and all branches of learning." As a result, affiliation with the University of Western Ontario came to an end, and Assumption College resumed operation as an independent institution, July 1, 1953.

In June, 1954, the College was admitted to full membership in the National Conference of Canadian Universities, and later the same year, to the University Matriculation Board of Ontario and the Association of Universities of the British Commonwealth.

In January, 1956, Essex College, under non-denominational control, was affiliated with the Faculty of Arts and Science as a Senior College of Pure Science offering courses in the natural sciences, mathematics, engineering, nursing education and business administration. The remaining departments of this Faculty were grouped into an academic unit known as University College, under the direct control of the University's Board of Governors. In February, 1956, Holy Redeemer College, the seminary of the Redemptorist Fathers, was affiliated with the Faculty of Arts and Science and authorized to give instruction leading to Bachelor of Arts degrees. In March, 1956, the Ontario Legislature passed an act which changed the name of Assumption College to Assumption University of Windsor.

In November, 1957, Canterbury College, an Anglican liberal arts college, was affiliated with the University and empowered to offer its own courses of instruction in history, philosophy and theology.

GENERAL INFORMATION

LOCATION

Assumption University of Windsor is situated on a beautiful hundred-acre campus south of the historic Detroit River and east of the towering steel structure of the Ambassador Bridge, which forms a physical link between Canada and the United States. The adjoining century-old Assumption Church, centre of the oldest parish in Windsor, symbolizes the ancient religious traditions which today still permeate and vitalize the industrial environment in which the University exists.

BUILDINGS

Administration Building: contains University administrative offices, staff residence, chapel.

Dillon Hall: provides lecture rooms and office facilities for the Departments of University College. The Psychology Department has a suite for testing purposes and consultation; laboratories and lecture rooms are provided for instruction in Home Economics; the Modern Language Department has a fully equipped language laboratory.

Memorial Science Building: contains laboratories, lecture rooms, offices and other facilities for the study of Biology, Geology, Mathematics and certain other departments of Essex College.

Annex: provides temporary accommodation for the Faculty of Applied Science.

Essex College (under construction): contains the executive offices, laboratories and lecture rooms, offices and other facilities for the Departments of Chemical, Civil, Electrical and Mechanical Engineering of the Faculty of Applied Science, and for the Departments of Chemistry and Physics of the Faculty of Arts and Science.

University Centre (under construction): contains facilities for cultural and recreational activities of students, faculty, alumni and guests of the University.

St. Denis Hall: contains the gymnasium, swimming pool, and other facilities for athletics.

St. Michael's Hall and South Hall: men's residences.

Holy Names College: women's residence.

Library: The present Assumption University Library was completed in 1958. Modular in plan, it is 90 feet wide, 190 feet long, and four stories high. It provides shelving for 350,000 volumes and has a seating capacity of 500 students. The open stack arrangement follows the modern practice of placing readers among books.

Within the entrance lobby is the main circulation desk, the focal point of the library. At this desk books are circulated and returned and reserve books are loaned from closed shelves. The librarians' offices and cataloguing department are adjacent to the desk area, so that the library staff are readily accessible to both students and faculty.

From the lobby there is ready access to the public catalogues, the open stack books, the reading and reference rooms. In the Main Reference room there are available for consultation reference works, bibliographies, periodical indexes, current and bound periodicals, government documents, pamphlets and clippings, maps, microfilms. Reference librarians are present to assist with reference problems.

The science collection consisting of books, current and bound periodicals, abstracts and indexes, the office of the science librarian and reading and private study rooms are on the mezzanine floor.

Special library facilities for faculty and students include study carrells in the stacks, browsing and display areas, seminar rooms, faculty studies. A combined audio-visual and lecture room on the third floor provides all necessary audio-visual equipment and seating for 200 persons. Here the Library Science lectures are given, and here professors may plan class lectures when either 16 mm. films, filmstrips, pictures or book displays are required.

The Library is intended for purposes of reading and serious study; quiet must be observed at all times. Since smoking space has been provided smoking is not allowed in the Reading and Reference rooms, Seminar rooms or stairways. Failure to maintain a suitable standard of conduct in the Library, or failure to observe any of the Library's rules and regulations will lead to action, after due warning from members of the Library staff, by the Library Committee.

The hallmark of any great university is the possession of a library—a library that has grown with the passing of the years, so that it is more than a mere repository of the wisdom of men and women of all nationalities and all ages, but itself proclaims the true purpose of a university to spread learning and to encourage scholarship. This purpose is proclaimed in the motto of the University, "Teach me Goodness, Discipline and Knowledge", carved in stone at the entrance to the Library.

CHRISTIAN CULTURE SERIES

Assumption brings each year to the campus a group of distinguished lecturers and artists in its Christian Culture Series. This series, established in 1934, is non-profiting, and is supported by subscriptions and donations. The University is happy to be able to make this contribution to the cultural life of the border cities, and donates the services of a member of its faculty to the promotion of the Series.

STUDENT ACTIVITIES

The Students' Administrative Council directs and administers all extra-curricular activities and publications in which the interest of students at Assumption University of Windsor are involved. The Council receives and administers all funds accruing from the fees collected by the University for student activities, and promotes inter-university functions when deemed advisable.

The Students' Administrative Council encourages and subsidizes various clubs and societies which offer opportunities to each student to explore the various realms in which he is especially interested. For the musically inclined there are the Glee Club, the Music Appreciation Society, and the Musicals sponsored by the Dramatic Club. The Assumption University Players foster three-act plays and a festival of one-act plays each year, plus minor offerings during the year at various functions. There are also the Law Club with its affiliations with Windsor lawyers and law courts, the German Club, the French Club, the Biology Club, the Chemistry Club, and the Psychology Club.

In addition there are organizations which offer inter-university cooperation such as the newly organized United Nations Club, the World University Students (W.U.S.), and the Canadian Federation of Catholic College Students. To students interested in Journalism the Students' Council offers a chance for active participation and experience on the school paper, the "Lance," and the Year Book, the "Ambassador". The democratic nature of student activities is well illustrated by the production of these publications. The students control their own finances and are responsible for advertising as well as the newsgathering and literary aspects of publishing.

One of the striking characteristics of Assumption's life is the close and friendly cooperation of students and faculty on a level which transcends the artificial barriers that sometimes lie between faculty and student on the university level. The intimacy that results serves to round out and integrate the education that the student receives in the lecture hall. This spirit has been characteristic of the Basilian mode of education for over a century.

DISCIPLINE

While student activities are democratically conducted with a view to the personal participation of the students in the actual running of affairs, nevertheless the Board of Governors recognizes its responsibility to maintain discipline and enforce regulations in matters affecting the academic progress and the conduct of students. The Board delegates the Deans of Faculties as its representatives in matters academic, and the Dean of Men and the Dean of Women as its representatives in all other disciplinary matters.

The name of the University may not be used in any publications without the permission of the President. No class or group of students may engage in any public effort as a body representing the University or any organization within the University, without the permission of the President.

The constitution of any proposed club or society must be presented to the Board of Governors for its approval by the Students' Administrative Council before such organization can be recognized.

ATHLETICS

The athletic program offers a varied array of intramural and intercollegiate athletics. Eighteen intramural sports in all are offered: Fall program—golf, tennis, track and field, sailing, football, soccer; winter program—hockey, curling, bowling, basketball, water-polo, swimming, judo, weightlifting, fencing, ping-pong and badminton. Championship intramural teams participate in the International Extramural Conference against representatives from the University of Detroit, Detroit Institute of Technology, and Lawrence Institute of Technology.

In the intercollegiate field, Assumption teams participate in golf, tennis, sailing, track and field, badminton, curling and basketball. Assumption is a full-time member of the Ontario-Quebec Athletic Association, competing with the University of Western Ontario, the University of Toronto, McMaster University, Queen's University and McGill University. Within the framework of the Ontario Intercollegiate Athletic Association, Assumption teams meet representatives from McMaster, Waterloo, Osgoode, Ontario Agricultural College, Royal Military College, and Ryerson.

Intercollegiate athletics are supervised by the Board of Control of Intercollegiate Athletics, whose members are made up of the President, the Local Council, the Dean of Arts and Science, the Dean of Applied Science, the Registrar, the Treasurer, the Faculty Moderator, the Athletic Director, the coaches, three non-faculty lay members, and a senior undergraduate representative from Assumption. Intramural athletics are under the supervision of the Intramural Athletic Council, whose members consist for the most part of undergraduates.

St. Denis Hall, the athletic building, houses one of the finest gymnasiums in Canada, with a 90 x 50 basketball court and seating capacity for upwards of 3,000 spectators. Its efficient facilities enable Assumption to continue as one of the country's leading basketball powers. Equipment is available for weightlifting, badminton, volleyball and judo. The swimming pool and dressing rooms complete the physical attributes of the gymnasium. The campus provides ample space for football, tennis and other sports. These athletic facilities are augmented by the off-campus use of the Windsor Hockey Arena and adjoining bowling alleys.

For women on campus, there is an extensive intramural program consisting of basketball, swimming, bowling, tennis, badminton and volleyball. An intercollegiate competition is being organized which will include home-and-home games with McMaster, Waterloo, and Ontario Agricultural College.

MILITARY TRAINING

Students may apply for training in one of the three Armed Services: the University Naval Training Division, the Canadian Officers' Training Corps, and the RCAF University Squadron. Suitable candidates for each service will be trained for commissioned rank.

I. Regular

Regular Officer Training Plan (ROTP)

Under the ROTP, undergraduates who are successful applicants are enrolled in the service of their choice, as Naval Cadets in the Royal Canadian Navy, Officer Cadets in the Canadian Army, and Flight Cadets in the Royal Canadian Air Force.

Applicants must be Canadian citizens or British subjects, single and under 21 at commencement of university or college training. If application is made prior to entry at university or college, it should be sent in writing to ROTP Selection Board, National Defence Headquarters, Ottawa, Ontario. If it is delayed until after admission to university, apply to the representative of your preferred service.

For successful applicants the cost of books, instruments, tuition and other essential fees will be borne by the Department of National Defence. The scale of pay and allowances under this plan is:

(a) During the academic year, pay of $55 a month and subsistence of $65 a month, for a total of $120 a month.

(b) During the period of practical summer training, pay of $55 a month and subsistence provided by the Armed Services.

On successful completion of academic and military training, cadets will be promoted to Commissioned Officer rank in the Regular Force. The privilege of release, if desired, will be honored after three years' service as a commissioned officer.

II. Non-Regular

University Naval Training Division

The Royal Canadian Navy hopes to secure the majority of its officers from the Universities. Undergraduates with or without previous experience may receive NAVAL TRAINING through the University Naval Training Divisions (U.N.T.D.). After the successful completion of their courses they may obtain commissions in the R.C.N. or the R.C.N.(R).

Applicants for training under the R.O.T.P. for service with the Royal Canadian Navy will train with the U.N.T.D. For further particulars regarding the R.O.T.P., see the details included in the above plan which is applicable to all Services.

The course consists of sixty hours training during the academic year, for three years, and fourteen weeks training ashore and afloat for two summers. Cadets may volunteer for additional service. Students enter as Probationary Cadets and in their first year appear before a Cadet Selection Board for promotion to the rank of Cadet.

Pay is at the rate of $185.00 a month. For training during the academic year Cadets are paid one half day's pay for each training period up to a maximum of 32 days' pay. On entry, uniforms are issued; and for summer training, board, lodging, medical care, dental care, and travelling expenses are provided.

The R.C.N. is hoping to build up a body of well-trained personnel who will be available for special services in cases of emergency. The U.N.T.D. provides the opportunity for obtaining valuable training and instruction useful in peace or war.

Information and application forms are available in the U.N.T.D. office, H.M.C.S. Hunter, Windsor, Ontario, and from the Commanding Officer, U.N.T.D., Assumption University of Windsor, Windsor, Ontario.

Canadian Officers' Training Corps

1. Canadian Officers' Training Corps offers undergraduates a unique opportunity to qualify themselves for commissions in the Canadian Army, either Active or Reserve, through a training program especially designed to meet their requirements.

2. Students are eligible who are:
    - (a) British subjects or Canadian citizens between the ages of 17 and 25; these requirements may be varied to allow a higher age of entry for men who were on active service during the war, 1939-45, and those entering special Corps.
    - (b) Of a physical standard suitable for the Canadian Army Active Force.
    - (c) Following a course of study leading to a recognized degree.

3. Training provided is in two parts:
    - (a) Two hours per week of lectures on theoretical military subjects during the academic year.
    - (b) Twelve to twenty weeks of practical training during the summer, depending upon length of vacation period and candidate's choice. Training will be as follows:
        - (i) First and second years—at Corps Schools of the Canadian Army Active Force.
        - (ii) Third year—practical leadership in charge of a troop, section or detachment at an Active Force Unit or camp.

4. Students accepted for COTC training are granted the rank of Officer Cadet during the first two years and in the third year are appointed as 2nd Lieutenants. They are eligible for pay of rank ($185.00 per month) for every full day of military duty. For this purpose four hours of lectures during the academic year count as one day's duty, as well as each day spent at summer camp up to a maximum of 22 weeks.

5. Candidates should apply to the following officers:
   Major C. M. J. F. Swan, Assumption University of Windsor, Windsor, Ontario.

RCAF University Reserve Training Plan (URTP)

Under this plan students admitted to a squadron are appointed to the rank of Flight Cadet and hold that rank until commissioned as Pilot Officers at the end of the third summer of training. As Flight Cadets and Pilot Officers they are paid at the rate of $185 a month during the summer months and up to sixteen days' pay for attendance at winter training lectures. Those accepted for aircrew training will receive an extra $30 a month during the summer flying training. Upon graduation personnel are promoted to Flying Officer and given the option of service with the Regular Force or going into the Supplementary Reserve, where they are on call only in case of national emergency.

Training in each cadet's particular field (i.e. Aircrew, Supply, Telecommunications, etc.) will take place during summer employment on air force stations.

For information and application forms see F/L W. L. White, the RCAF Representative on your campus. Those interested are advised to make application as soon as possible after registration.

STUDENT SERVICES

HEALTH: An infirmary with a qualified nurse and a visiting staff doctor is provided for the administration of first aid and the treatment of minor ills; the Windsor hospitals are also available for more serious ailments.

Prior to initial registration, each full time student is required to submit, on a personal health record form, provided by the Registrar's office, a certificate of medical examination performed by his family physician. No student may participate in any athletic activities unless his physician has certified his physical fitness.

The University is not responsible for expenses incurred as the result of injuries sustained by students while participating in athletic activities. Information regarding available accident insurance may be had on request from the Treasurer's office.

EMPLOYMENT: A placement bureau provides assistance in the obtaining of summer work and permanent employment upon graduation, and to a limited extent part time employment during the academic year. The University recognizes that some students must supplement their income by part time employment during the academic year; it wishes to point out however, that unless such employment is kept to a minimum, both the student's health and academic standing may suffer. In any case students who must work long hours do not derive full benefit from their university experience. A student in such circumstances would be better advised to obtain a loan, or alternatively to postpone his university education until such time as he can afford to devote his full time to the many facets of university life. (See also p. 47).

The Student Placement Bureau cooperates closely with National Employment Service and the Civil Service Commission of Canada.

RESIDENCE FACILITIES — Men: The University offers on-campus residence for students from out of town. The University feels that the experience in social living thus obtained is an integral part of contemporary education, and so obliges all students not living at home or with close relatives to live in residence for at least one year. This period may be lengthened at the discretion of the Board of Governors as more facilities become available. In addition, any student from out-of-town receiving any financial award within the jurisdiction of the University is obliged to live on campus during the academic year for which the award is made. By making application for residence, each student implicitly agrees to abide by all regulations. A copy of the general regulations for resident students is available on request. For Senior students who wish to live off campus, the University maintains a directory of suitable homes which provide room and board or room only. The directory is available in the office of the Dean of Men; each student must live in a house listed in the official directory, and must inform the Dean of his choice of residence and of any subsequent change.

Women: A residence is maintained by the Sisters of the Holy Names on the campus. All women not living at home or with immediate relatives are obliged to live in this residence. For details, reservations, etc., contact the Principal of Holy Names College, 265 Patricia Road, Windsor.

FOOD: The University maintains a Cafeteria, and there are restaurants available for students close to the campus.

COUNSELLING AND GUIDANCE: Each student on registration is assigned a member of the staff as a counselor, who is prepared to give advice on academic matters at all times. Students are free to approach any member of the administrative or instructional staff of the University regarding their education programs, their choice of careers, and their own personal problems. The Psychology department in particular is prepared to offer technical assistance in vocational guidance. Occasional lectures on specific occupational fields are arranged from time to time.

ANNUAL RETREAT: A traditional feature of student life at Assumption is the annual students' retreat, held on the first Thursday and Friday of Lent. Special missionaries are engaged for this purpose. Classes are not held during this brief period, so that students may devote themselves to their spiritual affairs. Every Catholic student is obliged to attend all the exercises of the retreat. Canterbury College (Anglican) also offers a retreat at this time.

FEES

Fees are subject to change without notice. All fees are for the academic year, except where otherwise indicated.

Full Time

The following schedule lists the minimum amounts payable, including registration, tuition, library, laboratory, examination, graduation, university centre and student activities fees.

Engineering	$500.00
All other courses (undergraduate)	425.00
(graduate)	412.50

Part Time (day or evening, undergraduate or graduate)

Tuition, per hour of instruction a week:	
first hour	40.00
each additional hour	30.00
Science laboratory fee, per subject	30.00
Language laboratory fee, per subject	10.00
Psychology laboratory fee, per subject	10.00

Miscellaneous fees (payable by all students as incurred)

Late Registration: Full-time	20.00
Part-time	5.00
Graduation *"in absentia"*	10.00
Special and supplemental examination, per subject:	
Regular time and place	10.00
Outside regular time and/or place	20.00
Change of course	2.00
Transcript of record	1.00
"Pro Tanto" allowance (for transfer of credit)	10.00
Non-resident fee (payable by all students resident outside the British Commonwealth of Nations) $20 per subject to a maximum of	100.00

N.B. (i) Graduate students do not pay Student Administrative Council fees. Part-time graduate students pay appropriate fees each year; part-time graduate students will not, however, pay more nor less in total than they would have paid if they had proceeded towards degrees as full-time students.

(ii) For fees in the Evening and Saturday Morning Division and Summer School, see their respective announcements.

Residence Fees

Room and Board—per academic year.................................... $650

An extra charge of $15 is made if the residence fee is paid in two instalments.

Each student who wishes to live on campus must send to the Registrar's Office prior to September 1st a deposit of $25. Upon receipt of this deposit a contract containing detailed conditions governing room and board will be mailed to the student. A deposit will be refunded if the reservation is cancelled prior to September 1st.

A student who withdraws from residence during the academic year may receive a refund only when such withdrawal is occasioned by circumstances beyond the control of the student and has the prior approval of the Dean of Men or of the Dean of Women.

Payment of Bills

Unless otherwise requested, the University presents its bills directly to the student, who assumes responsibility for their payment when due. All fees for the academic year are due and payable on the first day of registration. However, on special arrangements with the Treasurer's Office, fees may be paid in two instalments. A carrying charge is made of $5.00 for full-time students, or $2.00 per subject for part-time or evening division students. The first instalment is due at the time of registration; the second instalment on January 15, 1961, **without further notice.** One per cent per month, or any part thereof, will be charged in addition to the above carrying charges on all overdue accounts. REGISTRATION MAY NOT BE COMPLETED UNTIL FEES ARE PAID OR THE ABOVE SPECIAL ARRANGEMENTS MADE WITH THE TREASURER'S OFFICE.

Failure to pay an outstanding account will bar a student from writing examinations or obtaining credits for previous work.

A reduction is made in the tuition fees of brothers and sisters attending the University simultaneously as full-time students.

Withdrawal and Refund Policy

Students who are forced to withdraw from a course or from the University, are required to notify the Registrar and Treasurer in writing and to give their reasons for withdrawal. The obligation of teaching and accommodating a student rests on the University on a yearly basis. Hence:

(1) **All tuition credits or refunds shall be made entirely at the discretion of the University.**

(2) Credits or refunds will be made in the following cases only: (a) Cash refunds may be granted in cases where students are compelled to withdraw on account of serious and continued personal illness. (b) Cash refunds may also be granted in cases where the student is compelled to withdraw for other personal reasons provided these are satisfactory to the University authorities.

(3) Tuition not refunded or used may, if a Credit Note is secured from the Treasurer, be applied upon subsequent courses pursued in the University, provided such courses are taken within two years of the date of withdrawal of the student.

(4) The portion of the fee refunded is determined by the date of application for refund — NOT THE DATE OF WITHDRAWAL. If the application is made during the first week of the semester, a refund of 90% of the semester fees will be returned; during the second week, 80%; during the third week, 60%; during the fourth week, 40%. After the fourth week of each semester no refund will be given. Cheques for refunds will be available only six weeks after withdrawal.

FINANCIAL AID FOR STUDENTS

1. The University welcomes the offer of scholarships, prizes, medals, bursaries and loan funds.
2. Scholarships, prizes, medals, bursaries and loan funds may be accepted from donors at the discretion of the Senate on appropriate recommendation of the President. Awards of scholarships, prizes and medals will be made by the Senate to qualified candidates of merit, but the Senate may withhold any such award if no candidates of merit present themselves. The award of scholarships, prizes and medals shall be final when formally announced by the University.
3. (a) No limitation shall be placed upon the number of prizes and medals which any one student may win in any one year. (b) A student may be declared the winner of as many scholarships as he may win as a qualified candidate of merit, but in the case of awards carrying a major financial amount, such students will

normally receive the proceeds only of the largest among these major amounts. (c) Winners of scholarships and prizes may resign the monetary value but retain the honor of such awards, and their names will be published as winners. In cases arising under 3(b) or 3(c), the monetary amounts so relinquished may be awarded by reversion if merited.

4. Undergraduate scholarships and bursaries under the jurisdiction of the University will ordinarily be paid in two instalments, one in October and one in January and provided that the winners are continuing in their courses to the satisfaction of the University. If the work of a student in the first term has been unsatisfactory payment for the second term may be withheld.
5. The University does not guarantee the award of any scholarship, prize, medal or bursary other than those created from funds of the University. Those awards based upon gifts of individuals or associations other than the University will be awarded only after the funds required have actually been received from the donors.
6. A student who has received a scholarship or bursary within the jurisdiction of Assumption University of Windsor may not receive, without permission of the Board of Governors, an official transcript of record prior to graduation, unless he or she repays the entire amount of such assistance.
7. Most of the awards listed below are restricted to students attending Assumption University of Windsor. A few others, which may be held at Assumption as well as other Universities, are included because of their particular interest to our students. For additional information concerning this latter type of award, see the Dominion Bureau of Statistics publication, "University Entrance Awards", a copy of which may be consulted in the Registrar's Office.

SCHOLARSHIPS AND BURSARIES

In general, the term scholarship signifies an award made because of academic excellence, frequently without relation to financial need, whereas a Bursary is awarded to a student with good academic standing and financial need. The distinction between the terms, however, is not rigid.

Unless otherwise indicated, applications for the following awards are to be made to the Registrar (in the case of new students, through their High School Principal prior to May 1; in the case of returning students, directly to the Registrar between September 1 and 15). An applicant need not specify which award he wishes to receive, except in the case of an award designated below by an asterisk (*), and whose bestowal depends upon the fulfilment of special requirements. The amount of each award may vary with fluctuating economic conditions. Recipients are free to choose any course for which they have the necessary prerequisites, unless otherwise stated.

Entrance Scholarships.

Recipients of these scholarships may enroll in any course leading to a degree for which they have the necessary admission requirements.

1. The University is offering six scholarships for competition among Canadian students planning to enter the University in 1960. Each of the six has a total possible value of $3200 (for an out-of-town student) or $2000 (for a student living within commuting distance), i.e. $800 or $500 per year, renewable for four years under certain conditions. Details are as follows:
   - (a) Five scholarships are to be offered to applicants from Ontario: at least one will be awarded to an applicant from the City of Windsor and at least one from among applicants from Essex County outside Windsor. Applicants must have averages of at least 75% on nine Grade XIII papers, chosen in accordance with the entrance requirements appropriate to the courses the applicants wish to enter.
   - (b) One scholarship is to be offered to an applicant from Canada outside Ontario. Candidates should apply on the basis of senior matriculation in their respective provinces. In places where the equivalent of Ontario Grade XIII is not readily available, candidates may apply on the basis of junior matriculation. In either case, first class honours standing is a prerequisite for consideration.
   - (c) The scholarship must be used for the year commencing in September following the awarding of the scholarship. It can be renewed for the second year, provided the student has obtained first class honours in his or her first year, and so on until the student obtains a degree or completes four continuous years in University (whichever occurs sooner). Payment will be made in two instalments, and payment of the second instalment in any year will be contingent upon satisfactory progress.
   - (d) So far as the University is concerned, these scholarships may be retained in full along with any and all other awards recipients may receive.
2. The University is offering to any and all residents of the City of Windsor or the County of Essex, who complete nine Grade XIII papers in 1960 with averages of 75% or better, scholarships covering tuition for a possible total of four years. Details are as follows:
   - (a) The Grade XIII papers must be chosen in accordance with the entrance requirements for the course the applicant wishes to enter.
   - (b) The scholarships continue from year to year until the degree is obtained or until four years has elapsed (whichever is sooner) provided the recipient maintains a first class honours average each year.
   - (c) These awards cover net tuition but not incidental fees. These latter must be paid in full by each recipient.

(d) If a recipient receives other awards during the same academic year which, with this award, total more than $800, the excess over $800 shall be deducted from this award.

University Proficiency Scholarships (8).

An award of $200 off tuition the following year to the students standing highest in each year of Arts, Commerce and Science; 75% average required. The recipient may not be already enjoying a continuing scholarship, and must use the award in the year immediately following.

***Friends of Assumption Foundation, Inc., Scholarships (2).**

Value: $500 per year, renewable for a maximum of 4 years, provided the recipient maintains an "A" average in a general course or second class honours in an honours course. An applicant must be an American citizen and a U. S. resident; be in the top quintile of his class; take the Scholastic Aptitude Test offered by the College Entrance Examination Board.

Assumption University of Windsor Scholarship Fund.

Name of Award	Donor	Founded	Amt.
Fred H. Anderson Memorial Scholarship	Gotfredson Ltd. and Canadian Fabricated Products Ltd.	1955	$250
Father Henry Bellisle, C.S.B., Memorial Bursary	Former students	1954	300
Dr. Roy Coyle Memorial Bursary	Estate of Dr. Roy Coyle (late member, Board of Regents)	1956	300
Edmund Girardot Memorial Bursary	Friends	1958	200
Father Edward Hartmann, C.S.B., Memorial Bursary	Colleagues	1958	200
G. Hayward Jones (Class of 1942) Memorial Bursary	Friends	1946	100
Msgr. F. X. Laurendeau (Class of 1899) Memorial Bursary	Friends	1944	150
J. C. McGuire Memorial Scholarship, and	J. C. McGuire (late member, Board of Regents)	1949	250
J. C. McGuire Memorial Bursary		1952	200
Donald Stuart McIntyre (Class of 1896) Scholarship	D. S. McIntyre	1957	300
Frank McIntyre (Class of 1896) Memorial Bursary	Frank McIntyre	1955	300
Mrs. Fred D. Pearson Memorial Bursary	Mrs. F. D. Pearson	1945	300
Father W. J. Storey, C.S.B., Memorial Bursary	Former students	1958	200
*†Ellen Sullivan Memorial Scholarship, and	Msgr. F. T. Sullivan	1943	535
*†Msgr. F. T. Sullivan (Class of 1894) Scholarship		1945	535
Father R. S. Wood, C.S.B., Memorial Bursary	Friends	1958	200

†Restricted to graduates of Notre Dame High School, Chattanooga, Tennessee.

Assumption Alumni Awards.

These awards were established by the Alumni Association in memory of former Presidents and professors.

Memorial Bursary in memory of former professors	$250
Scholarship honoring former living Presidents	300
Father Daniel Cushing Memorial Scholarship	200
Father Daniel Dillon Memorial Bursary	200
Very Rev. Francis Forster Memorial Scholarship	300
Father Francis Hewlett Memorial Bursary	250
Father Robert McBrady Memorial Scholarship	200
Archbishop O'Connor Memorial Bursary	300
Father William Rogers Memorial Bursary	400

*Pre-theological Bursaries.

The following were established at the dates and by the donors indicated below for the benefit of students preparing to enter the priesthood:

1880, Rev. Jeremiah Ryan of Oakville, Ontario	$432
1893, Rev. Francis Marseille of River Canard, Ontario	480
1898, Miss Philomena Brand of Monroe, Michigan	480
1900, Mr. and Mrs. J. H. Hanley of St. Joseph's, Michigan	288
1902, Rev. Peter D. Laurent of Lindsay, Ontario	384
1923, Rev. Luke Renaud, C.S.B., of the class of 1879	768
1934, Rev. F. X. Semande, C.S.B., of the class of 1876	768

The Women's Auxiliary to Assumption University of Windsor Bursary.

Value $100. Awarded annually to a student in the humanities.

*Dominion-Provincial Student-Aid Bursaries, Type A.

Applications and terms of qualifications may be obtained from secondary school principals or the Registrars of the Departments of Education of the various provinces.

Dominion-Provincial Student-Aid Bursaries, Type B.

These bursaries ranging up to $400 are for students resident in Canada who have already completed at least one year of university work, are in financial need and have obtained averages of 66%, or better, the previous year.

*The Atkinson Charitable Foundation Entrance Bursaries.

Value: $400 for students living away from home, $200 for students residing within commuting distance of the University.

Candidates must be residents of Ontario and in need of financial assistance. They must obtain an average of at least 66% on eight Ontario Grade XIII examination papers, be qualified for entry to the degree course of their choice, and be sponsored by their high school principals. Application should be made through the high school principal.

Atkinson Charitable Foundation "In Course" Bursaries.

These awards are made to deserving students who have already completed at least one year of university work, and show evidence of academic sincerity, future promise and financial need. Applicants must be residents of the Province of Ontario.

The Chemical Institute of Canada (Essex-Kent section) Bursary.

Value: $100. Awarded annually to a Grade XIII student in Essex or Kent counties, with second class honours in Mathematics, Chemistry and Physics, who registers in a course leading to the degree of Bachelor of Science in Chemistry. Established 1955.

The Rhea Bray Memorial Bursary.

Value: $150. Awarded annually, on the basis of academic merit and need, to a woman student (preferably a freshman) recommended by the Dean of Arts and Science and approved by the Committee on Student Awards. In rare cases may be assigned to the same recipient two years in succession. Established in 1955 by the Zonta Club of Windsor.

The Odette Bursary in Engineering.

Value: $200. Awarded annually at the discretion of the Committee on Student Awards to a deserving student in Engineering. Established in 1955 by Mr. L. L. Odette, Sr. of Tilbury, Ontario.

The Theodule Girardot Bursary.

Value: $100. Awarded annually to a student of French. Established in 1959 by Dr. Celia Girardot.

The Legris Bursary.

Value: $50, established in 1955 by Judge J. A. Legris.

The Pennington Bursary.

Value: $100, donated in 1956 by J. C. Pennington of Windsor, Ontario.

The Sister M. Electa Memorial Bursary.

Awarded to a woman with satisfactory scholastic standing who is in financial need. This award excuses residence fees (up to $100) for one year.

The Catholic Women's League of London Diocese Bursary.

Value: $100. Awarded to a woman with satisfactory scholastic standing who is in financial need.

***The Navy League of Canada Bursaries.**

Value: $250. A number of awards are made each year across Canada to Sea Cadets entering universities and enroling in the U. N. T. D. For details, applicants may consult the Commanding Officers of their respective Sea Cadet Corps.

***The Naval Officers Association of Canada (Windsor Branch) Bursary.**

Value: $150. Awarded annually to a member of the University Naval Training Division, who has completed successfully the first year of his training. For details, consult the Commanding Officer, Assumption U. N. T. D.

The Windsor Junior Chamber of Commerce Bursaries.

Value: $100. Two awards may be made each year to male students of the Windsor area who have already completed one year of university studies at Assumption University of Windsor. Applicants must show evidence of academic achievement and financial need.

A.T.A. Trucking Industry Educational Foundation Bursaries.

In course bursaries for second or third year students who, because of extenuating circumstances, are deserving of financial assistance.

***The Windsor and District Labour Council Bursary.**

Value: $300. For children of T.L.C. unionists or other unionists. Applicants must be in financial need and have at least "B" averages. Preference to freshmen.

The Nathan Tepperman Bursary.

Value: $200. Awarded annually on the basis of scholastic ability or character or financial need or any combination of the foregoing according to the best judgment of the Committee on Student Awards to a deserving student in any year of any course. Established in 1956 by associates of Mr. Nathan Tepperman of Windsor, Ontario.

The Queenie H. Shirley Memorial Scholarship.

Value: $200. Awarded annually on the basis of scholastic ability or character or financial need or any combination of the foregoing according to the best judgment of the Committee on Student Awards to a student who has completed Preliminary Year Science at this University, or Grade XIII and enters First Year Engineering or Science. Established in 1955 by Dr. Frederick Shirley in memory of his wife, Dr. Queenie H. Shirley, at the time of her death an instructor in physics.

***H. J. Heinz Co. Scholarship.**

Value: $300 a year for a maximum of 4 years. Awarded to a Grade XIII student attending a district high school of Essex and Kent Counties. Apply to the Principal of the High School.

***Hiram Walker and Sons Scholarships.**

Value: $850 a year, for a maximum of four years. Awarded to children of employees. Apply to Public Relations Department, Hiram Walker and Sons Ltd., Walkerville, Ontario.

The H. Joseph McManus Scholarship.

Value: $600. Awarded annually at the discretion of the Committee on Student Awards to a deserving student. Established in 1954.

The Walkerville and East Windsor, Branch 12, Canadian Legion, B. E. S. L., Bursary.

Value: $250 for two years. Applicants must be residents of Windsor (or children of members of Branch 12). For other conditions of award and application forms, apply to the Registrar of the University.

Windsor Insurance Agents Association Bursary.

Value: $200. Awarded annually to a deserving student who is a resident of Essex County and is registered in Essex College.

For bursaries offered to nurses in post-basic study by the Provincial Department of Health, the Victorian Order of Nurses, and others, consult the Head of the Department of Nursing.

OTHER FORMS OF ASSISTANCE

Provincial Student Aid Loans.

Loans are available from this fund to enable Ontario students who have achieved a 60% average on their previous year's work, to undertake or to continue university courses. Maximum amount for 1 year: ordinarily $500; maximum amount for all years: ordinarily $2,000. The loan is without interest until April 1 in the year following graduation or withdrawal; thereafter, interest at 4% per annum is charged on the unpaid portion. For details, apply to the Registrar.

The Harry E. Carling Student Loan-Fund.

Small sums may be borrowed from this fund by students in good standing who have commenced their studies, but face the possibility of withdrawal as a result of financial difficulties. For details, consult Registrar.

The Harry F. Bennett Education Fund of the Engineering Institute of Canada.

Loans are available from this Fund to enable deserving students who have completed at least one year in engineering to complete their studies. Maximum amount for one year: $250; maximum for all years: $450. The loan is without interest until graduation; thereafter interest at 4% per annum is charged on the unpaid portion. For details apply to Mr. R. G. Billinghurst, E. I. C. faculty representative on campus.

The Children of War Dead (Education Assistance) Act.

Passed on July 1, 1953, this Act provides assistance towards an education beyond secondary school level for sons and daughters of veterans whose deaths were attributable to service in World War I, World War II, or the Korean operations. If the application is approved the Department of Veterans Affairs will pay

(a) to the student, an allowance of $25 per month for the period during which he or she is pursuing a full time course, up to a maximum of 36 months;

(b) to the university fees and other costs of tuition as described in the Act, up to a maximum of $500 per academic year.

For further details consult the local office of the DVA, or the Registrar.

The Services.

The Royal Canadian Navy, the Canadian Army and the Royal Canadian Air Force (both Regular and Non-Regular) make available on the campus several programs. For financial and other details, see pp. 22-25.

Canadian Forces Medical Undergraduate Subsidization Plan.

This scheme is designed to assist those who wish to make a medical career in one of the Armed Forces. Free academic tuition during the last three years of training in a medical school and other benefits are provided. Although previous training in the services is not an absolute necessity, the application by those who have had training in the UNTD, COTC or URTP will naturally be more favourably received than those who have not had any military experience. Further information may be obtained from Armed Forces representatives on campus.

Transportation Assistance.

Full-time students who reside in the territorial districts of Ontario may apply to the Minister of Education once per annum for sums representing the round trip special student coach-fare less ten dollars from the railroad stations nearest their homes to Windsor. For details, consult the Registrar.

United States Veterans' Benefits.

Qualified United States veterans attending this University may receive certain benefits through the provisions of various Public Laws. For conditions and details, consult the Registrar's Office.

Student Aid Foundation of Michigan.

Students living in metropolitan Detroit, Windsor and Essex County may receive grants and loans for use at this University on the basis of academic record, character and financial need. Applicants should contact the Student Aid Foundation of Michigan, 2486 National Bank Building, Detroit 26, prior to January 15.

PRIZES

The Dr. Roy J. Coyle Memorial Prizes.

Prizes of $50 each are awarded annually to the students with the highest standings in Zoology 10 and Physics 13. Endowed by the late Dr. Roy J. Coyle of Windsor, Ontario.

The Helena M. Coyle, B.A., Prize.

The interest on $1,000 is offered annually as a prize to the student with the highest standing in English 15.

The Board of Governors Medals.

Awarded annually to students graduating with the highest standing in each of several courses, as recommended by the Dean of Arts and Science, and to the undergraduates with the highest standing in each year, regardless of course.

The H. A. Scarff Memorial Prize.

A prize of $50 awarded annually to the student with the highest standing in Business Administration 250. Established in 1957 by friends of the late Mr. H. A. Scarff, former member of the Senate.

The McManus Memorial Classic Prize.

An annual award of $30 to the best student in Latin 12, and $5 to the Head of the Classics Department. Donated in memory of the late Patrick McManus of St. Thomas, Ontario, by his descendants, of whom 11 are alumni of Assumption.

The Women's Auxiliary to Assumption University of Windsor Prizes.

Four prizes of $25 each, two to be assigned to outstanding students in the Humanities, and two to outstanding students in the Social Sciences, to be chosen by the Committee on Student Awards.

POSTGRADUATE AWARDS

A number of fellowships varying in value from $500 to $2,000 per year are available for graduate students of any University proceeding to Masters' degrees in Arts and Science. For details, consult the Registrar's Office or the head of the Department concerned.

Under a plan drawn up at a conference held in Oxford in 1959, each participating country of the British Commonwealth offers a number of scholarships to students of other Commonwealth countries. These scholarships are mainly for graduate study and are tenable in the country making the offer. Awards are normally for two years and cover travelling, tuition fees, other university fees, and a living allowance. For details of the awards offered by the various countries consult the Registrar's office or write to The Canadian Universities Foundation, 77 Metcalfe Street, Ottawa.

For detailed information regarding fellowships and scholarships open to Assumption graduates in Canada and abroad, the following publications may be consulted in the Registrar's Office:

Canadian Universities and Colleges
(National Conference of Canadian Universities and Colleges)

Awards for Graduate Study and Research
(Dominion Bureau of Statistics)

United Kingdom Postgraduate Awards
(The Association of Universities of the British Commonwealth)

Study in France
(French Embassy, Ottawa)

Study Abroad
(United Nations Educational, Scientific and
Cultural Organization)

60% overall recommended
other criteria

ADMISSION REQUIREMENTS

Each person seeking admission to any part of the University should apply to the Registrar, Assumption University of Windsor, 400 Huron Line, Windsor, Ontario, for application forms, which are to be filled out and returned to the same. In the case of those seeking admission to the regular winter session, this should be done prior to September 1st. Earlier application, however, is strongly advised.

In addition to the academic qualifications listed below, an aptitude test may be required before admission.

1. For admission to First Year:

Satisfactory completion of nine Grade XIII papers, as indicated below (or equivalent):

Arts—English (2 papers), another language (2 papers); and **either** Mathematics (2 papers) or a third language (2 papers) and any other 3 papers, **or** Music and any other 4 papers.

Commerce (Business Administration)—English (2 papers), another language (2 papers); Algebra and 1 other Mathematics paper; and any other 3 papers.

Pure Science—English (2 papers), another language (2 papers); Algebra, Geometry, Trigonometry, Chemistry and Physics. (60% overall average required, plus an average of 60% in Mathematics and Science).

Nursing (degree course)—English (2 papers), another language (2 papers); Botany, Chemistry, Zoology; and any other 2 papers.

Engineering—60% overall average in the 9 Grade XIII papers specified, and in addition: 60% combined average in Algebra, Geometry, and Trigonometry, 60% combined average in Physics and Chemistry; English (2 papers); and

revise

Either Another language (2 papers), **Or** 2 papers from: Botany, Geography, History, Zoology, providing a Grade XII foreign language has been completed.

The Committee on Admissions may admit an applicant to First Year with one condition (i.e., lacking one subject—2 papers in one language or any other 2 papers). If an applicant has spent one or more years in Grade 13 and lacks more than one subject (as defined in this paragraph), he may not be admitted to either the First Year or to the Preliminary Year, but must complete the entrance requirements for First Year by further high school work.

An applicant who has completed advanced High School work outside of Ontario should submit the Departmental or other official certificates (originals or photostatic copies) to the Committee on Admissions for a decision regarding eligibility for entrance.

2. **For admission to Preliminary Year:**

The Ontario Secondary School Graduation Diploma in the General Course, or an equivalent certificate, with an average of at least 65 per cent in the following subjects of Grade XII:

1. English and History.
2. Latin or Mathematics.
3. One of: Latin, French, German, Spanish or Italian, Greek.
4. Two of: Mathematics, Science or Agriculture, Music, Geography, option from (3) not previously used.

No option may be counted more than once. For the Music option the following certificates will be accepted: Grade III Theory or Grade VII Practical and Grade II Theory.

Applicants for the B. Comm. program must have completed courses in Intermediate Algebra and Plane Geometry. Applicants for B. Sc. programs must have completed courses in Intermediate Algebra, Plane Geometry, Physics and Chemistry (or Agriculture): an average of 66% in these subjects is required of prospective engineers and of those intending to major in chemistry, mathematics or physics.

An applicant who has completed High School work outside of Ontario should submit the Departmental or other official certificates (originals or photostatic copies) to the Committee on Admissions for a decision regarding eligibility for entrance.

The General Certificate of Education of **Great Britain** (or an equivalent certificate from elsewhere in the Commonwealth) will admit to the Preliminary Year provided it indicates satisfactory completion of 5 subjects at the Ordinary level (three of which must be English, another language, Mathematics). If two of the five subjects are at the Advanced level, the G.C.E. will admit to First Year, provided the subjects chosen are appropriate to the course to which admission is sought.

Graduation from a **United States** high school will admit to the Preliminary Year provided the applicant has completed at least 16 academic units, including 4 units in English and sequences (at least 2 and preferably 3 units) in each of Mathematics, Science, Social Studies and one foreign language. An applicant for Arts may substitute additional units in another foreign language for either Mathematics or Science. The applicant, in addition, must receive a favourable recommendation from his Principal; he or she must have an academic record such that he or she ranks in the upper half of the class; and must obtain a score on a psychological examination satisfactory to the Committee on Admissions.

An applicant from **Latin America** must present a certificate showing satisfactory completion of the bachillerato necessary for admission to university in the applicant's own country.

THE PRELIMINARY YEAR

English 5, Speech 15y, Library Science
Language A or 2
Philosophy 15
plus one of the following combinations of subjects:

1. Arts

Mathematics 4 or Music 1 or another language A or 2;
Biology 1 or Geology 10 or Geography 10 or another science course involving laboratory work (with permission of Dean).

This qualifies for admission to First Year General Arts, which is prerequisite for all courses leading to the General and Honours B. A. degrees; and to the Honours B. Comm. degree provided Mathematics 4 has been completed.

2. Science

Mathematics 1y, 2y, 3y;
Chemistry 1a, Physics 1a.

This qualifies for admission to First Year General Science which is prerequisite for all courses leading to the General and Honours B.Sc. degree, provided the student has an overall average of 60%. Students majoring in the Physical Sciences, in addition, must have an average of 60% in Chemistry, Mathematics and Physics. The above also qualifies for admission to First Year Engineering, leading to the B.A.Sc. degree, provided the student has an average of 60% in Mathematics, 60% in Science, and an overall average of 60%.

3. Pre-Nursing

Biology 1, Chemistry 1a;
R.K. 14 or 14C or option.

This qualifies for admission to First Year Pre-Nursing, leading to the B. Sc. N. degree.

N. B. Students of the Preliminary Year who successfully complete Speech 15y, Library Science and Philosophy 15 will not be required to repeat these subjects in First Year, but will substitute Philosophy 25; in Second Year they will substitute an option outside their major field(s) for Philosophy 25.

3. **Adult Special Students**—Students who are over twenty-one years of age, though they may not be able to present qualifications for admission to candidacy for degrees, may be admitted to a few courses, if, in the opinion of the professors in charge, they are qualified to pursue satisfactorily the courses chosen. These special students must satisfy the professors by regular attendance and attention to the work of their classes. They will not be allowed to advance from year to year in a department without taking the regular examinations.

An adult special student who has satisfactorily completed one year's work in the General Course will be considered to have secured standing sufficient to permit his proceeding to a degree on the same terms as one who at entrance presented complete entrance requirements.

4. **Transfer Students:**

An applicant who wishes to transfer (at any level) from another college or university must arrange for a complete transcript of his record and a statement of honorable dismissal to be sent to the Registrar directly by each institution previously attended. An applicant who has attended another college or university and who is not eligible to re-register therein may not be admitted to this University. Every student will be required to complete at least one full year or the equivalent at this University, including at least two courses in his major field, before qualifying for a degree (see p. 213).

5. **Probationary Students:**

A student admitted to any year with the minimum admission requirements may be placed on probation by the Committee on Admissions. Such a student will be expected to show at all times concrete evidence of serious application to study. In the event that a student on probation fails his year he is not permitted to repeat, but must withdraw (see p. 46).

6. **Graduate Students:** See pp. 180 ff.

ACADEMIC REGULATIONS

Every assistance will be rendered the student who seeks advice in planning his program and in the fulfilment of requirements for a degree. Nevertheless, however, the responsibility for familiarizing himself with the requirements for degrees and with the academic regulations falls primarily upon the student himself.

GENERAL REGULATIONS

Registration

Each student must register at the commencement of each session at the time and place designated by the Registrar. Once the student has completed his registration, he may not change his course, add or drop subjects without:

1. (a) (in the case of regular day students) permission of his Dean; OR

   (b) (in the case of extension students) permission of the Director of Extension.
2. notification of the Registrar's Office.
3. notification of the instructor(s) concerned.

(For fees and refunds, see p. 27 ff).

Each new student in the regular winter session may be required, in addition, to take a battery of psychological tests, in connection with the counselling and guidance program (see p. 26), at a time and place designated by his Dean. In the event that a student fails to appear for such tests he may be required to take them at a later date with additional expense.

Students matriculating into this University from high school register in University College (except Redemptorist seminarians, who register in Holy Redeemer College). Students in Arts remain in University College until graduation. Students in Pure and Applied Science, Commerce, and Nursing transfer after the completion of Second Year to Essex College. For the present, Holy Names College offers residence and other facilities to women registered in other colleges, and Canterbury College offers instruction in Anglican religious knowledge and philosophy to students registered in other colleges.

Regular Examinations

The regular examinations will be held in January and May.

If a student writes more than one examination in a course, the last mark he obtains shall be the only one considered for academic credit.

In all subjects, the ratio of term-work marks to examination marks is determined by the teaching staff in each subject; neither term mark nor examination mark, however, will count for less than one-third nor more than two-thirds of the final grade. To pass a subject, a student must obtain an average of 50% on term work and examination; his Faculty Council, however, may at its discretion withhold credit if the mark in either term work or examination is below 50%.

Term work in a course will not be credited to a student beyond the year in which the course is taken.

Special Examinations

A Special Examination is an examination other than the regular examination in the course involved, Spring or Summer, permitted by the Dean for a grave reason and after special application. No special examination may be assigned except on the recommendation of the Head of the Department concerned, after consultation with the instructor involved. (Often students should be advised to adopt the alternative of repeating the lectures and taking the next regular examination.)

A student who fails to appear for a paper at the time set on the examination timetable will not be allowed to write on the examination paper thus missed, but may be permitted to write a special examination upon fulfilment of the conditions indicated in the above paragraph at a time determined by the Registrar after consultation with the Department and Instructor involved. (For fees, see p. 27).

Failures

A course may be repeated once only.

Subjects which depend directly upon the work of a preceding year may not be taken by a student who has failed in the work of the preceding year.

A full-time student who fails his year and who has already failed a year, either at this or some other university, or is on probation, shall withdraw; otherwise he shall be permitted to return but shall be required to obtain a passing grade in each individual subject of his approved registration at the following Spring examinations. A student who fails to meet this requirement shall withdraw.

Appeals

A student who wishes to receive special consideration on account of serious illness or bereavement or other grave reason should communicate with the Registrar's Office before the close of the examination period, and should submit supporting documents (e.g., a medical certificate) within a week. Requests for consideration on these grounds will not be considered after the official results have been released by the Registrar's Office.

A student who wishes an examination paper re-read, should submit the request in writing to the Registrar's Office within six weeks after the close of the examination period, together with a fee of $10. In the event that the grade is changed as a result of re-reading, this fee will be refunded.

Appeals should be addressed to the Secretary of the appropriate Faculty Council, and sent to the Registrar's Office.

Miscellaneous

NB

Any student of any year who shows an unsatisfactory knowledge of spoken or written English must do additional assignments until his work satisfies his instructors.

When a student begins a foreign language in the University, no credit towards a degree will be given for the first year of that language unless that year is followed by a second year in the same language, with the following exception: a student in the final year of a science major course who has Grade XIII credit in any language other than English may elect German A, French A or Russian A as a credit course for his humanities option. No student may begin two foreign languages in the same year.

Permission to take extra courses must be obtained through the appropriate Dean.

A student may take courses for credit in Summer Schools conducted by this or other institutions, subject to approval by his Dean. Such courses, if approved, may be counted towards degrees. No student, however, who enters the University with Junior Matriculation standing alone, will be permitted to obtain any Bachelor's degree in less than four complete academic years.

Every student entering the University in Preliminary or First Year is required to complete satisfactorily a course in Library Science (see p. 125).

A student who wishes to participate in more than one extracurricular activity (on or off campus), or who wishes to undertake employment during an academic session, must obtain permission from his Dean before engaging in such activity. **No student who is employed full-time will be permitted to attempt more than three full year-courses in the winter session (day or evening), nor more than one full year-course in the summer session.**

For particular regulations of the Faculty of Arts and Science, see pp. 60; for the Faculty of Applied Science, see pp. 161.

TEACHERS' COURSES AND CERTIFICATES

1. Courses for Teachers.

For the benefit of teachers and others who cannot attend the regular day winter sessions, the University offers instruction leading to B. A. degrees in the General Course in the Evening Division and in Summer School, (see p. 213). It is possible to complete the requirements entirely by these means. Candidates are advised to plan their programs carefully, with the assistance of the Registrar, in order to avoid delays resulting from time-table conflicts or other reasons.

2. High School Assistants' Certificates.

I. Type B.

The academic standing for admission to the course in the Ontario College of Education leading to a High School Assistants' Certificate, Type B, is a degree in Arts, Science, Commerce, Applied Science or Household Science from a British University, based upon courses approved by the Minister of Education.

It is recommended that a prospective High School teacher include at least seven full subjects (twenty-one year credits) in High School teaching subjects in his undergraduate curriculum. It is further recommended that he major in a High School teaching subject in order to qualify for an endorsed certificate.

II. Type A.

As a result of agreements between the Minister of Education and Assumption University of Windsor, completion of the following Honours Courses offered by this University with a final or graduation average of 66% fulfills the academic requirements for admission to the courses at the Ontario College of Education leading to High School Assistants' Certificates, Type A, in the fields as indicated below:

Honours Course	**Type A Certificate**
English Language and Literature	English
English and Philosophy (Language option)	English
English and History	English and History
History (Economic option)	History
History (Philosophy option)	History
Chemistry and Biology	Chemistry and Biology
Chemistry and Physics	Physics and Chemistry
Mathematics	Mathematics
Physics	Mathematics and Physics

Graduates in General Courses who wish to obtain Type A standing in English, English and History, History, Mathematics, Mathematics and Physics, Science, Physics and Chemistry, Physics and Biology, Chemistry and Biology should consult the Registrar.

3. Public School Inspector's Certificate

The Department of Education will accept from a graduate of Assumption University of Windsor for the purposes of the Public School Inspector's Certificate any honour degree in arts or science required for admission to the course of study leading to a High School Assistant's Certificate, Type A; and a pass degree in arts or science where the candidate

(i) obtains the degree with a standard of 66% on his final examinations; and

(ii) successfully completes any three of the first, second, third, and fourth year courses of study in English.

The candidate is required, further, to have extended his course over at least four years from Junior matriculation and to have attended university classes for at least two academic years, or for at least one academic year and two sessions of the summer school, or the equivalent thereof.

For the professional requirements candidates should consult the Department of Education, Toronto 5, Ontario.

THE FACULTY OF ARTS AND SCIENCE

THE FACULTY OF ARTS AND SCIENCE

Faculty Council

The Dean of Arts and Science, Chairman; the President; the Executive Vice-President; the Registrar; the Associate Dean of Arts and Science; the Principals of the Colleges in the Faculty of Arts and Science; the Heads or Chairmen of Departments and Directors of Schools in the Faculty of Arts and Science, as follows:

H. H. G. Jellinek, Ph.D., **Chemistry**
Rev. C. P. J. Crowley, C.S.B., Ph.D., **English (Speech)**
Rev. D. T. Faught, C.S.B., M.A., **Mathematics**
Rev. E. C. Garvey, C.S.B., Ph.D., **Philosophy**
Rev. A. J. Grant, C.S.B., M.A., **Biology (Botany, Zoology)**
G. R. Horne, Ph.D., **Business Administration**
Rev. M. J. Hussey, C.S.B., M.A., **Classics**
Rev. C. J. Drouillard, C.S.B., Ph.D., **Modern Languages**
Rev. L. A. McCann, C.S.B., S.T.D., **Religious Knowledge**
Rev. D. J. Mulvihill, C.S.B., Ph.D., **History**
W. G. Phillips, Ph.D., **Economics and Political Science**
Florence M. Roach, R.R.C., B.S., Reg.N., R.R.L., **Nursing**
L. Krause, Ph.D., **Physics**
Brother Roger Philip, F.S.C., Ph.D., **Psychology**

Officers of Instruction—Full time

(The year of first appointment to the Faculty of Arts and Science is given. "C" in brackets after name indicates the staff of Canterbury College; "E" the staff of Essex College; "R" the staff of Holy Redeemer College; "U" the staff of University College).

Rev. Arthur Edward Alexander, C.Ss.R. (R); Ph.L. (Fribourg, 1955). Assistant Professor of Philosophy—1957.

Winfred Gerald Benedict (E); B.S.A. (Toronto, 1949), Ph.D. (ibid., 1952). Associate Professor of Biology—1957.

Robert Gordon Billinghurst (E); B.A.Sc. (Toronto, 1940), M.A.Sc. ibid., 1949). Associate Professor of Chemistry—1957.

Rev. Frank John Boland, C.S.B. (U); B.A. (Toronto, 1938), M.A. (Detroit, 1948), Ph.D. (Ottawa, 1955). Assistant Professor of History—1955.

John Maxwell Brownlie (E); B.A. (Western Ontario, 1949), M.B.A. (Michigan, 1950). Assistant Professor of Business Administration—1958.

Very Rev. Francis Leo Burns, C.S.B. (U); B.A. (Western, 1928), M.A. (Michigan, 1939), Ph.D. (ibid., 1947), Superior (1958). Associate Professor of Economics—1936.

Louis Lorne Campbell (E); B.Sc. (Manitoba, 1950), M.S. (Iowa State College, 1951), Ph.D. (Toronto, 1955). Assistant Professor of Mathematics—1958.

Vincent Casmere Chrypinski (U); M.L. (Catholic U. of Lublin (Poland), 1939), M.A. (Wayne, 1953), Ph.D. (Michigan, 1958). Assistant Professor of Political Science—1957.

Rev. Cornelius Patrick Joseph Crowley, C.S.B. (U); B.A. (Toronto, 1936), M.A. (Michigan, 1945), Ph.D. (ibid., 1952); Dean of Graduate Studies, 1959. Professor and Head, Department of English—1944.

Rev. Edward J. Crowley, C.Ss.R. (R, U); B.A. (St. Joseph's (New Brunswick), 1941), S.T.L. (Catholic U. of America, 1948), S.S.L. (Pontifical Biblical Institute (Rome), 1950). Assistant Professor of Religious Knowledge—1957.

Joseph Csendes (E); D.Phil. (University of Debrecen, 1935), D.Rer.Pol. (ibid., 1938). Demonstrator in Physics—1958.

Rev. James Daley, C.S.B. (U); B.A. (Western Ontario, 1953), M.A. (Toronto, 1957), S.T.B. (St. Michael's (Toronto), 1958). Lecturer in Philosophy—1959.

John Norbert Deck (U); B.A. (Western Ontario, 1946), M.A. (ibid., 1948). Lecturer in Philosophy—1957.

Frank A. DeMarco (E); B.A.Sc. (Toronto, 1942), M.A.Sc. (ibid., 1943), Ph.D. (ibid., 1951); Principal, Essex College, 1959. Dean of Applied Science, 1959. Professor of Chemistry—1946.

Rev. John Roger Dougherty, C.S.B. (E); B.A. (Western Ontario, 1951), S.T.B. (St. Michael's (Toronto), 1955), M.S. (Cornell, 1959). Lecturer in Biology—1951.

Robert Joseph Doyle (E); B.A. (Western Ontario, 1948), M.A. (ibid., 1950), M.S. (Michigan State, 1953). Associate Professor of Biology—1948.

Rev. Clarence Joseph Drouillard, C.S.B. (U); B.A. (Toronto, 1944), M.A. (ibid., 1947), Ph.D. (Laval, 1951). Associate Professor and Head, Department of Modern Languages—1956.

Rev. D'Arcy Lawrence Egan, C.Ss.R. (R, U); S.T.L. (Catholic U. of America, 1945). Associate Professor of History and Religious Knowledge—1957.

Hermes Andrew Eliopoulos (E); B.Sc. (Salonika, Greece, 1946), M.Sc. (McGill, 1954), Ph.D. (Toronto, 1956). Assistant Professor of Mathematics—1956.

Zbigniew Marian Fallenbuchl (U); B.Sc. (Econ.) (London, 1951), M.A. (Montreal, 1957). Assistant Professor of Economics and Political Science—1959.

Rev. Donald Thomas Faught, C.S.B. (E); B.A. (Toronto, 1937), M.A. (Michigan, 1944). Associate Professor and Head, Department of Mathematics—1954.

Charles Fay (U); B.Sc. (St. Louis, 1948), M.A. (ibid., 1950), Ph.D. (ibid., 1956). Assistant Professor of Philosophy—1958.

Rev. Robert Charles Fehr, C.S.B. (U); B.A. (Toronto, 1943), M.A. (Detroit, 1949), Ph.D. (Fordham, 1958). Assistant Professor of Psychology—1951.

Patrick Francis Flood (U); B.A. (Western Ontario, 1939), M.A. (ibid., 1941). Assistant Professor of Philosophy—1945.

Rev. Edwin Charles Garvey, C.S.B. (U); B.A. (Toronto, 1928), M.A. (ibid., 1932), Ph.D. (ibid., 1937); Principal, University College, 1958. Professor and Head, Department of Philosophy—1937.

John Blake Gertz (E); B.S. (Detroit, 1940), M.B.A. (Ohio State, 1950). Assistant Professor of Business Administration—1957.

William John Gillen (U); B.A. (1958), M.A. (Toronto, 1959). Lecturer in Economics and Political Science—1959.

Matteo Glinski (U). Visiting Professor of Music—1959.

Joseph Martin Graham (U); B.A. (Western Ontario, 1947), M.A. (ibid., 1952). Lecturer in Philosophy—1959.

Rev. Alexander John Grant, C.S.B. (E); B.A. (Toronto, 1933), M.A. (St. Bonaventure, 1944). Professor and Head, Department of Biology—1945.

Simon Green (E); Ph.D. (Vienna, 1932), Actuary Teacher's Dipl. (Uppsala, Sweden, 1943), Ph.D. (Pittsburgh, 1952). Associate Professor of Mathematics—1959.

Edwin Emile Habib (E); B.Sc. (Birmingham, 1955). Lecturer in Physics—1959.

Wilfred Hanson (E); B.Comm. (Saskatchewan, 1950), M.B.A. (Western Ontario, 1952). Lecturer in Business Administration—1958.

Rudolf A. Helling (U); B.A. (Wayne State, 1952), Diplom-Sozialwirt (B.D.V.) (Wilhelmshaven, 1953). Lecturer in Sociology—1956.

Gilbert Richard Horne (E); B.A. (Western Ontario, 1931), M.A. (Michigan, 1936), Ph.D. (ibid., 1954). Professor and Director, School of Business Administration—1931.

John Huschilt (E); B.A. (Toronto, 1952), M.A. (ibid., 1953). Assistant Professor of Physics—1953.

Rev. John Michael Hussey, C.S.B. (U); B.A. (Toronto, 1931), M.A. (Catholic U. of America, 1937). Professor and Head, Department of Classics—1941.

Hanss H. G. Jellinek (E); Ph.D. (London (Imperial College), 1941), Ph.D. (Cambridge, 1945). Professor and Vice-Chairman, Department of Chemistry—1959.

Rev. Kleinnart Joseph Johnson, C.Ss.R. (R); M.A. (Catholic U. of America, 1944), B.A. (Western Ontario, 1947). Assistant Professor of English—1946.

Daniel Patrick Kelly (U); B.A. (Toronto, 1950), M.A. (ibid., 1952). Lecturer in English—1958.

Rev. Frederick Temple Kingston (C, U); B.A. (Toronto, 1947), M.A. (ibid., 1950), L.Th. (ibid., 1950), B.D. (ibid., 1950), D.Phil. (Christ Church, Oxford, 1953). Professor of Philosophy—1959.

Gabriel Klambauer (E); B.Sc. (1956), M.A. (Wayne State, 1959). Lecturer in Mathematics—1959.

Raymond Henry Koenig (E); B.Sc. (McMaster, 1954), M.Sc. (ibid., 1955). Lecturer in Physics—1956.

*Rev. George Watka Kosicki, C.S.B. (E); B.A. (Western Ontario, 1951), M.S. (Michigan, 1956). Lecturer in Chemistry—1956.

Lucjan Krause (E); B.Sc. (London, England, 1951), M.A. (Toronto, 1953), Ph.D. (ibid., 1955), A.Inst.P. (1956). Associate Professor and Chairman, Department of Physics—1958.

Calvin Charles Kuehner (E); B.Sc. (Ohio State, 1949), M.Sc. (ibid., 1950), Ph.D. (ibid., 1953). Assistant Professor of Biology—1958.

James Jerome Leddy (E); B.S. (Detroit, 1951), Ph.D. (Wisconsin, 1955). Assistant Professor of Chemistry—1959.

Rev. Leonard Albert McCann, C.S.B. (U); B.A. (Western Ontario, 1931), S.T.B. (Angelicum (Rome), 1935), S.T.L. (Laval, 1943), S.T.D. (ibid., 1947). Professor and Head, Department of Religious Knowledge—1952.

Lillian Margaret McCarthy (U); B.A. (Toronto, 1936), M.A. (ibid., 1937), Ph.D. (ibid., 1943). Assistant Professor of Modern Languages—1958.

Rev. Joseph John McCormick, C.Ss.R. (R); B.A. (Western Ontario, 1947), M.A. (ibid., 1949). Assistant Professor of History—1946.

Howard Douglas McCurdy (E); B.A. (Western Ontario, 1953), B.Sc. (1954), M.Sc. (Michigan State, 1955), Ph.D. (ibid., 1959). Lecturer in Biology—1959.

Rev. David Gordon Macdonald, C.S.B. (U); B.A. (Toronto, 1948), M.A. (ibid., 1952). Lecturer in Classics—1958.

Ronald Edward MacDonald (E); B.A. (Toronto, 1949), M.A. (ibid., 1951), Ph.D. (ibid., 1957). Assistant Professor of Physics—1959.

Rev. Thomas James McGouey, C.S.B. (U); B.A. (Western Ontario, 1928). Lecturer in Psychology—1949.

Eugene Joseph McNamara (U); A.B. (DePaul, 1953), M.A. (ibid., 1955). Assistant Professor of English—1959.

*On leave, 1959-60.

Rev. Robert Joseph Madden, C.S.B. (U); B.A. (Toronto, 1952), M.A. (ibid., 1955), S.T.B. (St. Michael's (Toronto), 1955). Lecturer in English—1957.

Rev. John Alphonse Malone, C.S.B. (U); B.A. (Western Ontario, 1939), M.A. (Toronto, 1945), Ph.D. (Fordham, 1953). Associate Professor of Psychology—1959.

Mary J. Manley (U); B.A. (Western Ontario, 1913), M.A. (Yale, 1928), Ph.D. (ibid., 1933). Associate Professor of English—1952.

Wilburn Raymond Mann (U); B.A. (Texas, 1947), M.A. (Catholic U. of America, 1953). Assistant Professor of Psychology—1953.

Sr. Marian Dolores, S.N.J.M. (U); B.A. (Marylhurst, 1937), M.A. (Loyola (Chicago), 1944), Ph.D. (ibid., 1947); Dean of Women, 1959; Principal, Holy Names College, 1959. Visiting Professor of Psychology—1959.

Sister Michael Mary, S.N.J.M. (E); B.A. (Western Ontario, 1946). Lecturer in Biology—1949.

*Marie Lucille Moss (E); B.S. (Nebraska, 1934), M.S. (Minnesota, 1944). Assistant Professor of Biology—1955.

Rev. Daniel Joseph Mulvihill, C.S.B. (U); B.A. (Western Ontario, 1937), M.A. (Michigan, 1946), Ph.D. (ibid., 1954); Vice-President, Development, 1958. Professor and Head, Department of History—1942.

Most Rev. Charles Leo Nelligan (U); B.A. (Laval, 1926), D.D. (Bishop of Fenice). Associate Professor of History and Modern Languages—1947.

Rev. William Francis Nigh, C.S.B. (E); B.A. (Western Ontario, 1923), M.A. (Houston, 1941). Assistant Professor of Mathematics—1946.

Rev. John Michael Curtis O'Donoghue, C.S.B. (U); B.A. (Toronto, 1944), M.A. (ibid., 1951). Assistant Professor of Modern Languages—1959.

Rev. John Patrick O'Meara, C.S.B. (U); B.A. (Toronto, 1938), M.A. (Wayne State, 1942), Ph.D. (Ottawa, 1948). Associate Professor of History—1959.

*On leave, 1959-60.

Rev. Edward Cecil Pappert, C.S.B. (U); B.A. (Toronto, 1938), M.A. (Detroit, 1944), Ph.D. (Ottawa), 1954; Director of Extension, 1958. Assistant Professor of English—1950.

Sister Pauline of Mary, S.N.J.M. (U); B.A. (Western Ontario, 1942), M.A. (Laval, 1954). Assistant Professor of Modern Languages —1950.

Rev. Ronald Stanley Pazik, C.S.B. (U); B.A. (Western Ontario, 1949), M.A. (Toronto, 1955). Lecturer in Modern Languages—1955.

Michael Luke Petras (E); B.Sc. (1954), M.Sc. (Notre Dame, 1956). Lecturer in Biology—1956.

Brother Roger Philip, F.S.C. (William James Overend), (U); B.A. (Toronto, 1917), M.A. (ibid., 1922), Ph.D. (Catholic U. of America, 1928). Professor and Head, Department of Psychology —1956.

William Gregory Phillips (U); B.A. (Toronto, 1944), M.A. (ibid., 1947), Ph.D. (ibid., 1953). Professor and Head, Department of Economics and Political Science—1950.

Homer Frederick Plante (U); B.A. (Western Ontario, 1934), M.A. (Toronto, 1948). Lecturer in English—1956.

Rev. Raymond D. Powers, C.Ss.R. (R); M.A. (Catholic U. of America, 1940). Assistant Professor of Philosophy—1957.

Stanley James Whitworth Price (E); B.A. (British Columbia, 1953), M.Sc. (ibid., 1955), Ph.D. (Edinburgh, 1958). Assistant Professor of Chemistry—1959.

David Rankin (E); B.A. (British Columbia, 1948), M.A. (ibid., 1949). Assistant Professor of Physics—1959.

Rev. Robert Spencer Rayson (C, U); M.A. (Queen's, 1918), S.T.B. (General Theological Seminary (New York), 1925), D.D. (Anglican Theological College of B. C., 1949); Principal, Canterbury College, 1957. Professor and Head, Department of Religious Knowledge, Lecturer in History—1958.

Rev. Maurice Adrian Record, C.S.B. (U); B.A. (Western Ontario, 1935), M.A. (Toronto, 1949). Associate Professor of Psychology —1952.

Florence Martina Roach (E); R.R.C. (1944), Reg.N. (1931), B.S. (Seton Hall, 1942), R.R.L. (1951). Assistant Professor and Head, Department of Nursing—1955.

Sr. Mary Romana, S.N.J.M. (U); B.Sc. (Nazareth College, 1958), M.S. (Michigan State, 1959). Instructor in Home Economics—1959.

Rev. Norbert Joseph Ruth, C.S.B. (U); B.A. (Toronto, 1932), M.A. (ibid., 1947); Dean of Arts and Science, 1952. Special Lecturer in Philosophy of Science—1951.

Kenneth Gerald Rutherford (E); B.A. (Western Ontario, 1949), Ph.D. (Wayne State, 1954). Associate Professor of Chemistry—1958.

Alfred Arthur Smith (U); B.A. (Queen's, 1947), M.A. (ibid., 1948), Ph.D. (McGill, 1950). Assistant Professor of Psychology—1959.

John Francis Sullivan (U); B.S. (Detroit, 1940), M.A. (ibid., 1947), Ph.D. (Michigan, 1958). Assistant Professor of English—1958.

Conrad Marshall John Fisher Swan (U); B.A. (Western Ontario, 1949), M.A. (ibid., 1951), Ph.D. (Cambridge, 1956). Assistant Professor of History—1949.

Rev. Peter Julian Michael Swan, C.S.B. (U); B.A. (Toronto, 1938), M.A. (ibid., 1942), Ph.D. (ibid., 1946). Assistant Professor of Philosophy—1946.

Albert A. Thibault (U); A.B. (Boston College, 1931), License-ès-lettres (Paris, 1939), M.A. (Harvard, 1942), Docteur-ès-lettres (Laval, 1953). Associate Professor of Modern Languages—1953.

Roger Joseph Thibert (E); B.A. (Western Ontario, 1951), M.S. (Detroit, 1954), Ph.D. (Wayne State, 1958). Assistant Professor of Chemistry—1953.

Paul Ernest Vandall (E); B.A. (Western Ontario, 1949). Lecturer in Geography—1952.

Sadanand Verma (E); B.Sc. (Patna, 1950), M.Sc. (Bihar, 1952), Ph.D. (Wayne State, 1958). Lecturer in Mathematics—1959.

Rev. Arthur Jerome Weiler, C.S.B. (U, E); B.A. (Toronto, 1930). Lecturer in Modern Languages and Geology—1937.

Walter LeRoy White, D.F.C. (U); B.A. (Western Ontario, 1951), M.A. (Toronto, 1952). Assistant Professor of Economics—1956.

Elias Zakon (E); Mgr. Phil. (Stefan Batory U. (Wilno), 1934), Dr. jur. (ibid., 1939). Assistant Professor of Mathematics—1957.

Michael Zin (E); B.Comm. (1955), M.B.A. (Michigan, 1956). Assistant Professor of Business Administration—1956.

Sessional and Part Time Appointments

Cecil Mackintosh Birch (E); B.A. (Western Ontario, 1945), M.A. (Toronto, 1946), Ph.D. (ibid., 1953). Instructor in Business Administration—1959.

Irvin Henry Brockman (E); B.E. (Saskatchewan, 1958). Instructor in Physics—1958.

Donald Arthur Flock; B.A. (Western Ontario, 1945), LL.B. (Osgoode, 1949). Instructor in Business Administration—1959.

Ivan Galantic (U); Dipl. di prof. d'Arte (Accad. di Belle Arti, Rome, 1946), M.A. (Wayne State, 1958). Instructor in Fine Arts—1955.

William Richard Gee (E); B.Sc. (Queen's, 1956). Instructor in Mathematics—1956.

Elizabeth Gray (Mrs. T.) (E); Dipl. Nursing Ed. (1958). Instructor in Nursing Education—1959.

Violet Webb Leach (Mrs. J. D.) (U); L.C.M. (London, 1928), C. of M. (ibid., 1930), M.A. (Wayne, 1950). Instructor in Music—1943.

Robert Walter Meanwell (E); B.A. (Western Ontario, 1937), Chartered Accountant. Instructor in Business Administration—1954.

Batia Zakon (Mrs. E.) (U); M.A. (University of Vilno, 1936). Lecturer in Modern Languages—1958.

Department of Extension

In addition to regular members of the staff, the following served as special lecturers:

Evening Classes, Winter 1959-60

Robert D. Jackson, C.A., Accounting

James Kirk, B.Comm., R.I.A., Accounting

James P. Masterson, C.G.A., C.P.A., R.I.A., Cost Accounting

John C. Mongenais, B.Sc., Business Mathematics

Glyn Nelles, C.G.A., R.I.A., Cost Accounting

Ray W. Taylor, B.Comm., C.A., Accounting

Thomas G. Zuber, B.A., Barr.-at-Law, Industrial Legislation

~~Except for Engineering~~

PARTICULAR REGULATIONS

I. Failures

A student in the General or Honours program who fails to obtain 50% in the regular or supplemental examinations in a course will not be eligible for re-examination without a further year's attendance at the lectures in the course in which he has failed. **The student must repeat that course, if it is prescribed, the year after failure no matter what subject or subjects must be postponed.**

A full-time student in any year who fails more than two full subjects (or the equivalent in half subjects) or whose general average is less than 40%, at the Spring examinations, shall be deemed to have failed his year and shall lose credit for all the subjects of that year in which he has obtained less than 66%.

A student in Second Year shall, in addition, be required to obtain 60% or better in at least three subjects by the conclusion of the August examinations; if he fails to do so, he shall fail his year and lose credit for all subjects of that year in which he has obtained less than 66%. He must repeat his year, and if he fails to complete this requirement must withdraw.

A student who is required to repeat his year's work may petition his Dean to be allowed to substitute a subject at the same year-level and available without a clash of timetable, for a subject in which he has obtained 66% or better.

II. General Course

Students in the General Courses will be ranked in order of merit in each year and in each subject in six grades, A, B, C, D, E, F. The minimum for Grade A is 75% of the marks obtainable; for Grade B, 66%; for Grade C, 60%; for Grade D, the minimum passing grade, 50%. A mark that falls in Grade E, 40 to 49%, entitles the student to a supplemental, subject to the regulations governing supplementals (see below). Grade F, less than 40%, indicates a total failure and the necessity of repeating the course in class.

No student will be admitted to a Bachelor's degree who has not obtained at least Grade D on all the prescribed and elective work of his course and who has not obtained Grade C on half the work of the senior year, and an average of Grade C in all the courses in his major subject belonging to the Second and Third Years, exclusive of minor requirements.

Supplementals ~~this wording of [illegible]~~ 51

A supplemental examination is one set on work in which a student has been conditioned (40 to 49%). This examination will be

~~Except for Engineering~~

held in August for those who have been conditioned in any course. (See first paragraph under **Failures**, above).

Students conditioned at the final examinations should attempt to remove their conditions at the supplemental examinations of the next August. If a condition is not removed the **whole course** must be repeated. ?

Supplemental examinations will not be allowed any student in more than two full courses. ?

Students whose grade is F (less than 40%) in any course may not write a supplemental. They must repeat the course. ?

A student who has failed his year is not permitted to write any supplemental or special examinations on the work of that year. ✓

III. Honours Course

Students entering Honours Courses should observe that the purpose of their university work is not simply the creditable passing of courses, term after term, but the gradual acquisition of a broad and deep knowledge of the chosen subjects and an intelligent appreciation of their bearing upon general knowledge and culture. Various departments have introduced comprehensive examinations for Honours students. These examinations, partly oral and partly written, are given at the end of the senior year and cover the broad aspect of the student's Honours Course. They are additional to the course examinations.

Candidates in the Honours Courses in any department will be ranked in order of merit in that department in four classes; those who obtain 75%, or over, of the total number of marks will be placed in Class I; those who obtain 66% to 74% will be placed in Class II; those who obtain 60% to 65% will be placed in Class III; those who obtain between 50%, the minimum for pass, and 59%, will be placed in Class IV; but an average of Class IV over all the Honours subjects of the fourth year (with no failure on any paper) will not entitle the candidate to an Honours degree. Standing in general subjects will be indicated by letter grades (see Section I above).

A candidate in an Honours Course who, at the examination for the degree of Bachelor of Arts, fails to obtain the requisite average for honours (60%), provided he has obtained 50% in each course of his final year, may, on the recommendation of the Committee on Academic Standing, be awarded a degree in the General Course. The candidate may write a subsequent examination for the Honours degree.

The average of Honours students will be calculated as the general average of all courses in II Year, and the average of Honours courses exclusively in III and IV Years.

Students in an Honours Course, who do not obtain at least third class average in the major Honours subjects of the II and III years, with an average of at least 60% in all subjects, are not permitted to continue in Honours.

A student who fails to obtain 50% in an Honours subject will be allowed to continue in Honours if his year average as calculated above is 60% or better. No supplemental examinations are allowed in Honours subjects. Courses

If a student at the end of II Year Honours transfers to the General course, he shall be required to take all subjects of III Year General.

If a student in III Year Honours transfers to the General course, he will not be eligible for a degree unless he has completed all the required subjects of the General course.

BACHELOR OF ARTS

GENERAL COURSE

This program may be adapted to suit the needs of students planning to enter **Law, Teaching, Social Work, Personnel Work, Theology,** or any profession requiring a good, general background in the Liberal Arts.

Admission requirements:

Nine Grade XIII papers, including English (2 papers); another language (2 papers); and **either** Mathematics (2 papers) or a third language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or Preliminary Year Arts (see p. 42).

FIRST YEAR

English 15, Speech 15y, Library Science
Language †2 or 12
R.K. 14 or 14C or option
Philosophy 15

Two courses (see Note 2) from:

Economics 15 or 19; Geography 10; History 10 or 11; Psychology 15; Sociology 12; Business Administration 15, or Home Economics 10, or Political Science 12, or an additional language †2 or 12, or option.

SECOND YEAR

R.K. 24 or 24C or Philosophy 22
Philosophy 25

Two courses (see Note 4) from:

†Economics 15 or 19; ‡History 24 or 27 or 36;
†Psychology 15; one option.

Two courses in one of the following major fields:

Economics:	21, 23
English:	22 and one other
French:	†12 or 21, 22y, 23y
Geography:	19, 24
History:	36 and one other
Home Economics:	25, 27
Philosophy:	27, 31
Political Science:	20 and one other
Psychology:	28 and one other
Religious Knowledge:	22, *24
Sociology:	23, 32
Spanish:	†12 or 21, 22y, 23y

THIRD YEAR

R.K. 34 or 34C or option
Two options
Two courses in one of the following major fields:
- Economics: Two courses
- English: 39 and one other
- French: †21, 27, 31
- Geography: 34 and one other
- History: Two courses
- Home Economics: 31, 37, seminar
- Philosophy: 34 and one other
- Political Science: Two courses
- Psychology: Two courses, seminar
- Religious Knowledge: 33, *34
- Sociology: 35, Psychology 34
- Spanish: †21, 33, 34

†Omit, if previously taken.
‡History majors may not choose a History course from this group.
*If already chosen, an option is to be substituted.

Notes:

(1) A **major** may be taken, with the consent of the department concerned, in any subject listed in Group A below. A **combined major** (consisting of one subject per year in each of two fields) may be taken, with the consent of the departments concerned, provided that at least one of the subjects is chosen from Group A. The other may be chosen from Group A or B. At present subjects are classified tentatively as follows:

Group A—Economics, English, French, Geography, History, Home Economics, Philosophy, Political Science, Psychology, Religious Knowledge, Sociology, Spanish.

Group B—Fine Arts, German, Latin, Russian, Speech.

Combined majors will be arranged to suit individual needs by the Dean in consultation with the heads of the departments concerned.

(2) In selecting his subjects in First Year, the student should include **the subject appropriate to the major or Honours course** he wishes to undertake. (History majors elect History 10. Students planning to enter Honours Business Administration elect Business Administration 15 and Economics 15 or 19).

(3) An "option" means a subject **outside the major field** (or fields, in the case of a combined major) not already taken. Options in each year may be drawn from the natural sciences or mathematics, with permission of the Dean of Arts and Science, and

options in II and III Year shall be chosen in consultation with the head of the department in which the student is majoring. (An extra charge may be made for options involving laboratory work).

(4) Economics 15 or 19, Psychology 15 and at least one of History 10, 11, 24, 27, 36, are **required for graduation.**

(5) No subject may be counted more than once.

(6) A student in the General course may, with the consent of the Dean and the Department concerned, substitute an Honours subject in place of a General course subject in his major field, provided he has the necessary prerequisites and fulfills the conditions attaching to an Honours subject.

(7) Students intending to enter the teaching profession through the Ontario College of Education, see regulations on pp. 47-48.

HONOURS COURSES

Honours courses are characterized by strict prescriptions of studies and high standards of performance, more especially within those departments in which the major and minor subjects have been selected. These courses are one year longer than the General Courses.

I. HONOURS ECONOMICS AND POLITICAL SCIENCE

Admission requirements: Nine Grade XIII papers, including English (2 papers); another language (2 papers); and **either** Mathematics (2 papers) **or** a third language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or equivalent subjects of Preliminary Year (see p. 42).

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
Language 12 (or 2)	3
Religious Knowledge 14 or 14C or option	2
Philosophy 15 (or 25)	3
Economics 19§	3
Political Science 12 or option	3
	18

For admission to Second Year Honours, an overall average of 60% is required, and at least 66% in Economics 19.

Second Year Honours

Philosophy 25 or option	3	
Bus. Ad. 250 (Principles of Accounting)	3	(+ 2 lab.)
Economics 221 (Pricing Theory and Policy)	3	
Economics 223 (Money and Banking)	3	
Economics 237 (Econ. Hist. of Europe and U.S.)	3	
Political Science 220 (Canadian Government)	3	
	18	

Third Year Honours

R. K. 34 or 34C or Philosophy 22		2
One of: English 22, 36, 38, or option		3
Economics 338 (Econ. History and Problems of Canada)		3
Two of:	Economics 301 (International Economics)	3
	Economics 306 (Business Cycles; Econ. Development)	3
	Economics 336 (Economics of Labour)	(3)
One of:	Pol. Sc. 331 (Comparative Government)	3
	Pol. Sc. 334 (Commonwealth of Nations)	(3)
		17

Fourth Year Honours

History 36		3	
Economics 400 (History of Economic Thought)		2	
Economics 434 (Statistical Methods)		2	(+ 2 lab.)
Pol. Sc. 452 (History of Political Thought)		2	
Two of:	Economics 402 (Government and Economic Life)	2	
	Economics 410 (Modern Economic Theory)	2	
	Economics 431 (Public Finance)	(2)	
	Pol. Sc. 432a and Econ. 432b (Soviet Govt. & Economy)	(2)	
	Pol. Sc. 443 (International Politics)	(2)	
		13	

§Students who have taken Economics 15 may be accepted into Second Year Honours with permission of the Head of the Department.

II. HONOURS ENGLISH LANGUAGE AND LITERATURE

Admission requirements: Nine Grade XIII papers, including English (2 papers); French (2 papers); **either** Mathematics (2 papers) or another language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or equivalent subjects of Preliminary Year (see p. 42).

Graduation in this course with at least second class honours qualifies a student for admission to the Type A course in English at the Ontario College of Education.

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
French 12	3
Philosophy 15 (or 25)	3
Religious Knowledge 14 or 14C or option	2
History 10	3
One of: Economics 15 or 19, or Psychology 15	3
	—
	18

For admission to Second Year Honours, an overall average of at least 60% is required, with at least 66% in English 15, French 12, and History 10.

Second Year Honours

R. K. 24 or 24C or Philosophy 22	2
Philosophy 25 (or option)	3
French 27 or option	3
English 212y (Greek Lit. in English translation)	1
English 236 (Modern British and American Drama)	3
English 250 (Restoration and 18th Century Literature)	2
English 254 (Criticism, Scholarship, Bibliography)	2
	—
	16

Third Year Honours

R. K. 34 or 34C or option	2
Option	3
English 350 (Romantic Revival)	3
English 356 (English Drama to 1642)	3
English 357y (History of English Language)	1
English 358 (American and Canadian Literature)	3
English 363y (Old and Middle English)	2
	—
	17

Fourth Year Honours

Option	3
English 441y (Creative Writing)	1
English 450 (Renaissance Lit., Non-Dramatic)	3
English 459 (Recent Literature in English)	3
English 460 (Victorian Period)	3
English 463 (Advanced Middle English)	2
	—
	15

III. HONOURS ENGLISH AND FRENCH

Admission requirements: Nine Grade XIII papers, including English (2 papers); French (2 papers); and **either** Mathematics (2 papers) or another language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or equivalent subjects of Preliminary Year (see p. 42).

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
French 12	3
Religious Knowledge 14 or 14C or option	2
Philosophy 15 (or 25)	3
Two of: Economics 15 or 19, History 10, Psychology 15	6
	18

For admission to Second Year Honours, an overall average of at least 60% is required, and at least 66% in English and French.

Second Year Honours

R. K. 24 or 24C or Philosophy 22	2
Philosophy 25 or option	3
English 250 (Restoration and 18th Century Literature)	2
English 254 (Criticism, Scholarship, Bibliography)	2
One of: English 236 (Modern British and American Drama)	3
English 358 (American and Canadian Literature)	(3)
French 260y (Prose Composition)	1
French 261y (Conversation, Phonetics)	2
French 270 (Renaissance and Classical Literature)	3
	18

Third Year Honours

R. K. 34 or 34C or option	2
History 36	3
English 357y (History of the English Language)	1
English 363y (Old and Middle English)	2
One of: English 350 (Romantic Revival)	3
English 356 (English Drama to 1642)	(3)
French 375y (Advanced prose composition)	1
French 376y (Oral French)	1
French 380 (Literature of the 18th Century)	3
	16

Fourth Year Honours

Three of: English 450 (Renaissance Lit., Non-Dramatic)	3
English 459 (Recent Literature in English)	3
English 460 (Victorian Period)	3
English 463 (Advanced Middle English)	(3)
French 490 (Literature of 19th Century)	3
French 495 (Literature of 20th Century)	3
French 496y (Advanced Oral French)	1
	16

IV. HONOURS ENGLISH AND HISTORY

Admission requirements: Nine Grade XIII papers, including English (2 papers); another language (2 papers); and **either** Mathematics (2 papers) or another language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or equivalent subjects of Preliminary Year (see p. 42).

Graduation in this course with at least second class honours qualifies a student for admission to the Type A course in English and History at the Ontario College of Education.

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
Language 12 (or 2)	3
Religious Knowledge 14 or 14C or option	2
Philosophy 15 (or 25)	3
History 10	3
One of: Economics 15 or 19 or Psychology 15	3
	18

For admission to Second Year Honours, an overall average of at least 60% is required, and 66% in English, Language, and History.

Second Year Honours

R. K. 24 or 24C or Philosophy 22	2
Philosophy 25 or option	3
English 250 (Restoration and 18th Century)	2
English 254 (Criticism, Scholarship, Bibliography)	2
One of: English 236 (Modern British and American Drama)	3
English 358 (American and Canadian Literature)	(3)
History 236 (Modern History)	3
History 257 (Ancient Civilizations)	3
	18

Third Year Honours

Political Science 12 or Geography 10	3
English 350 (Romantic Revival)	3
English 356 (English Drama to 1642)	3
English 357y (History of English Language)	1
English 363y (Old and Middle English)	2
History 324 (England)	2
History 331 (Canada)	3
One of: History 337 (Russia)	3
History 335 (Latin America)	(3)
History 358 (Canada, Autonomous State)	(3)
	19

Fourth Year Honours

Three of: English 450 (Renaissance Lit., Non-Dramatic)	3
English 459 (Recent Lit. in English)	3
English 460 (Victorian Period)	3
English 463 (Advanced Middle English)	(3)
Three of: History 434 (United States)	3
History 439 (Intellectual History of Russia)	3
History 452 (European Societies and Institutions)	3
History 461 (Political Thought and Parties in Canada)	(3)

V. HONOURS ENGLISH AND PHILOSOPHY (Philosophy Option)

Admission requirements: Nine Grade XIII papers, including English (2 papers); another language (2 papers); and **either** Mathematics (2 papers) or another language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or equivalent subjects of Preliminary Year (see p. 42).

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
Language 12 (or 2)	3
Religious Knowledge 14 or 14C or option	2
Philosophy 15 (or 25)	3
Psychology 15	3
One of: Economics 15 or 19 or History 10	3
	18

For admission to Second Year Honours, an overall average of at least 60% is required, and 66% in English 15, Language 12 and Philosophy 15.

Second Year Honours

Philosophy 25 or option		3
Philosophy 221a (Logic)	(1st sem)	3
Philosophy 222 (Ethics)		2
Philosophy 226b (Philosophy of Education)	(2nd sem)	3
Philosophy 228a (Philosophical Psychology)	(1st sem)	3
English 212y (Greek Lit. in English Translation)		1
English 250 (Restoration and 18th Century Lit.)		2
English 254 (Criticism, Scholarship, Bibliography)		2
One of: English 236 (Modern British and American Literature)		3
English 358 (American and Canadian Literature)		(3)
		18 & 15

Third Year Honours

R. K. 24 or 24C or option	2
Philosophy 327 (History of Medieval Philosophy)	3
Philosophy 334 (Metaphysics)	3
English 350 (Romantic Revival)	3
English 356 (English Drama to 1642)	3
English 357y (History of English Language)	1
English 363y (Old and Middle English)	2
	17

Fourth Year Honours

Philosophy 336a (Existentialism)	(1st sem)	3
Philosophy 423b (Philosophy of Art)	(2nd sem)	3
Philosophy 431 (Modern and Contemporary Philosophy)		2
Philosophy 450 (History of Ancient Western Philosophy)		3
English 450 (Renaissance Lit., Non-Dramatic)		3
English 459 (Recent Literature in English)		3
English 460 (Victorian Period)		3
		17

VI. HONOURS ENGLISH AND PHILOSOPHY (Language Option)

Admission requirements: Nine Grade XIII papers, including English (2 papers); French (2 papers); and **either** Mathematics (2 papers) or another language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or equivalent subjects of Preliminary Year (see p. 42).

Graduation in this course with at least second class honours qualifies a student for admission to the Type A course in English at the Ontario College of Education.

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
French 12	3
Religious Knowledge 14 or 14C or option	2
Philosophy 15 (or 25)	3
Psychology 15	3
One of: Economics 15 or 19 or History 10	3
	18

For admission to Second Year Honours, an overall average of at least 60% is required, and 66% in English 15, French 12, and Philosophy 15.

Second Year Honours

Philosophy 25 or option	3
Philosophy 222 (Ethics)	2
English 250 (Restoration and 18th Century Lit.)	2
English 254 (Criticism, Scholarship, Bibliography)	2
One of: English 236 (Modern British and American Drama)	3
English 358 (American and Canadian Literature)	(3)
French 260y (Prose Composition)	1
French 261y (Conversation, Phonetics)	2
French 270 (Renaissance and Classical Literature)	3
	18

Third Year Honours

English 350 (Romantic Revival)	3
English 356 (English Drama to 1642)	3
English 357y (History of English Language)	1
English 363y (Old and Middle English)	2
Philosophy 334 (Metaphysics)	3
Philosophy 431 (Modern and Contemporary Philosophy)	3
French 380 (18th Century Literature)	3
	18

Fourth Year Honours

Three of: English 450 (Renaissance Lit., Non-Dramatic)		3
English 459 (Recent Literature in English)		3
English 460 (Victorian Period)		3
English 463 (Advanced Middle English)		(3)
Philosophy 226b (Philosophy of Education)	(2nd sem)	3
Philosophy 336a (Existentialism)	(1st sem)	3
One of: French 490 (19th Century Literature)		3
French 495 (20th Century Literature)		(3)
		15

VII. HONOURS ENGLISH AND SPANISH

Admission requirements: Nine Grade XIII papers, including English (2 papers); another language (2 papers); and **either** Mathematics (2 papers) or another language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or equivalent subjects of Preliminary Year (see p. 42).

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
Spanish 12 (or 4)	3(5)
R. K. 14 or 14C or option	2
Philosophy 15 (or 25)	3
Two of: Economics 15 or 19, History 10, Psychology 15	6
	18(20)

For admission to Second Year Honours, an overall average of at least 60% is required, and at least 66% in English and Spanish.

Second Year Honours

R. K. 24 or 24C or Philosophy 22	2
Philosophy 25 or option	3
English 250 (Restoration and 18th Century Literature)	2
English 254 (Criticism, Scholarship, Bibliography)	2
One of: English 236 (Modern British and American Drama)	3
English 358 (American and Canadian Literature)	(3)
Spanish 221 (or 12) (Spanish Literature)	3
Spanish 222y (Conversation)	1
Spanish 223y (Advanced Composition)	1
	17

Third Year Honours

History 35	3
Option (or Spanish 221)	3
English 357y (History of English Language)	1
English 363y (Old and Middle English Language and Lit.)	2
One of: English 350 (Romantic Revival)	3
English 356 (English Drama to 1642)	(3)
Spanish 333 (Mexican Literature)	2
Spanish 334 (Spanish American Literature)	2
Spanish 335y (Oral Spanish)	1
	17

Fourth Year Honours

Three of: English 450 (Renaissance Lit., Non-Dramatic)	3
English 459 (Recent Literature in English)	3
English 460 (Victorian Period)	3
English 463 (Advanced Middle English)	(3)
Spanish 432 (Spanish Literature)	3
Spanish 433 (Spanish Literature)	2
Spanish 435y (Oral Spanish)	1
	15

VIII. HONOURS FRENCH AND SPANISH

Admission requirements: Nine Grade XIII papers, including English (2 papers); French (2 papers); and **either** Mathematics (2 papers) **or** another language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; **or** equivalent subjects of Preliminary Year (see p. 42).

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
French 12	3
Spanish 12 (or 4)	3(5)
R. K. 14 or 14C or option	2
Philosophy 15 (or 25)	3
One of Economics 15 or 19, History 10, Psychology 15	6
	18(20)

For admission to Second Year Honours, an overall average of at least 60% is required, and at least 66% in French and Spanish.

Second Year Honours

History 35	3
R. K. 24 or 24C or option	2
French 260y (Prose Composition)	1
French 261y (Conversation, phonetics)	2
French 270 (Renaissance and Classical Literature)	3
Spanish 221 (or 12) (Spanish Literature)	3
Spanish 222y (Conversation)	1
Spanish 223y (Advanced Composition)	1
	16

Third Year Honours

Philosophy 25	3
Option (or Spanish 221)	3
French 375y (Advanced prose composition)	1
French 376y (Oral French)	1
French 380 (18th Century Literature)	3
Spanish 333 (Mexican Literature)	2
Spanish 334 (Spanish American Literature)	2
Spanish 335y (Oral Spanish)	1
	16

Fourth Year Honours

History 36	3
French 490 (19th Century Literature)	3
French 495 (20th Century Literature)	3
French 496y (Advanced oral work)	1
Spanish 432 (Spanish Literature)	3
Spanish 433 (Spanish Literature)	2
Spanish 435y (Oral Spanish)	1
	16

IX. HONOURS HISTORY (Economics Option)

Admission requirements: Nine Grade XIII papers, including English (2 papers); another language (2 papers); and **either** Mathematics (2 papers) or another language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or equivalent subjects of Preliminary Year (see p. 42).

Graduation in this course with at least second class honours qualifies a student for admission to the Type A course in History at the Ontario College of Education.

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
Language 12 (or 2)	3
Religious Knowledge 14 or 14C or option	2
Philosophy 15 (or 25)	3
History 10	3
Economics 19§	3
	—
	18

For admission to Second Year Honours, an overall average of at least 60% is required, with at least 66% in English 15, History 10, and Economics 19.

Second Year Honours

Philosophy 25 or option	3
Geography 10	3
Geography 219 (World Resources and Industries)	3
Economics 223 (Money and Banking)	3
History 236 (Modern History)	3
History 257 (Ancient Civilizations)	3
	—
	18

Third Year Honours

R. K. 24 or 24C or Philosophy 22	2
Geography 324 (World Regional Geography)	3
Economics 338 (Econ. History and Policies of Canada)	3
History 324 (England)	2
History 331 (Canada)	3
History 356a (International Relations, World Problems) (1st sem)	3
One of: History 333a (Self-Govt. in British Empire) and 354b (Latin America)	3
History 337 (Russia)	(3)
History 358 (Canada, Autonomous State)	(3)
	—
	17½

Fourth Year Honours

Geography 334 (Canada)	3
One of: Economics 400 (History of Economic Thought)	2
Pol. Sc. 452 (History of Political Thought)	(2)
Three of: History 434 (United States)	3
History 439 (Intellectual History of Russia)	3
History 452 (European Societies and Institutions)	3
History 455 (British Political Parties)	(3)
History 461 (Canadian Political Thought and Parties)	(3)
One of: Economics 402 (Government and Economic Life)	2
Economics 431 (Public Finance)	(2)
Economics 432b & Pol. Sc. 432a (Soviet Economy and Govt.)	(2)
Pol. Sc. 334 (Commonwealth of Nations)	(2)
	—
	16

§Students who have taken Economics 15 may be accepted into Second Year Honours at the discretion of the Department.

X. HONOURS HISTORY (Philosophy Option)

Admission requirements: Nine Grade XIII papers, including English (2 papers); another language (2 papers); and **either** Mathematics (2 papers) or another language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or equivalent subjects of Preliminary Year (see p. 42).

Graduation in this course with at least second class honours qualifies a student for admission to the Type A course in History at the Ontario College of Education.

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
Language 12 (or 2)	3
Religious Knowledge 14 or 14C or option	2
Philosophy 15 (or 25)	3
History 10	3
Psychology 15	3
	18

For admission to Second Year Honours, an overall average of at least 60% is required, with at least 66% in English 15, Philosophy 15 and History 10.

Second Year Honours

Philosophy 25 or option		3
Geography 10		3
Philosophy 222 (Ethics)		2
Philosophy 226b (Philosophy of Education)	(2nd sem)	3
Philosophy 228a (Philosophical Psychology)	(1st sem)	3
History 236 (Modern History)		3
History 257 (Ancient Civilizations)		3
		17

Third Year Honours

R. K. 24 or 24C or option	2
Geography 324 (World Regional Geography)	3
Philosophy 327 (History of Medieval Philosophy)	3
Philosophy 334 (Metaphysics)	3
History 324 (England)	2
History 331 (Canada)	3
One of: History 333a (Self-Govt. in British Empire)	
and 354b (Latin America)	3
History 337 (Russia)	(3)
History 358 (Canada, Autonomous State)	(3)
	19

Fourth Year Honours

Option		3
Pol. Sc. 212 (Elements of Political Science)		3
Philosophy 431 (Modern and Contemporary)		3
History 356a (International Relations, World Problems)	(1st sem)	3
History 434 (United States)		3
One of: History 439 (Intellectual History of Russia)		3
History 452 (European Societies and Institutions)		(3)
History 455 (British Political Parties)		(3)
History 461 (Canadian Political Thought and Parties)		(3)
		18 & 15

XI. HONOURS PHILOSOPHY (Science Option)

Admission requirements: Nine Grade XIII papers, including English (2 papers); another language (2 papers); Mathematics (3 papers); Physics and Chemistry; or the equivalent subjects of Preliminary Year (see p. 42), with at least 60% overall average.

First Year General

	Hrs./wk. Lect.	Lab.
English 15, Speech 15y, Library Science	4	
Language 12 (or 2)	3	
Religious Knowledge 14 or 14C or option	2	
Philosophy 15 (or 25)	3	
One group of: (i) Botany 10, Zoology 10	4	6
(ii) Chemistry 10, Mathematics 15	6	3
(iii) Mathematics 15, Physics 10	6	3

Total hours per week: (i) 16/6 (ii) 18/3 (iii) 18/3

For admission to Second Year Honours, the student must obtain at least 60% in the science options and in Philosophy, and an overall average of at least 60%.

Second Year Honours

	Lect.	Lab.
Philosophy 25 or option	3	
English or another language	3	
One group of: (i) Psychology 15, Zoology 22	6	3
(ii) Psychology 15, Chemistry 22	5	3
(iii) Mathematics 25x, Physics 22	6	3
Philosophy 222 (Ethics)	2	
Philosophy 221a, 226b (Logic, Philosophy of Education)	3	
Philosophy 228a (Philosophical Psychology)	1½	

Total Hours per week: (i) 17½/3 (ii) 17½/3 (iii) 18½/3

Third Year Honours

	Lect.	Lab.
Religious Knowledge 34 or 34C or option	2	
One group of: (i) Botany 243, Zoology 24a	3	4½
(ii) Chemistry 23, Chemistry 24	4	3
(iii) Psychology 15, Physics 23	5	3
Philosophy 327 (History of Medieval Philosophy)	3	
Philosophy 334 (Metaphysics)	3	
Philosophy 336 (Existentialism, Pragmatism)	2	

Total Hours per week: (i) 15/4½ (ii) 14/3 (iii) 15/3

Fourth Year Honours

	Lect.	Lab.
Option	3	
One group of: (i) Botany 337y, Zoology 442b	3½	..
(ii) Chemistry 34	2	3
(iii) Physics 36	2	3
Philosophy 350 (Philosophical Texts, Seminar)	2	1
Philosophy 431 (Modern and Contemporary Philosophy)	2	1
Philosophy 435 (Logical Positivism, Symbolic Logic)	3	

Total hours per week: (i) 13½/2 (ii) 12/5 (iii) 12/5

XII. HONOURS PHILOSOPHY AND PSYCHOLOGY

Admission requirements: Nine Grade XIII papers, including English (2 papers); another language (2 papers); and **either** Mathematics (2 papers) or another language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or equivalent subjects of Preliminary Year (see p. 42).

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
Language 12 (or 2)	3
Religious Knowledge 14 or 14C or option	2
Philosophy 15 (or 25)	3
One of: Economics 15 or 19 or History 10	3
Psychology 15	3
	18

For admission to Second Year Honours, an overall average of at least 60% is required.

Second Year Honours

Two of: Philosophy 25*, Economics 15* or 19, History*, option	6
Philosophy 221a (Logic) and 228a (Philosophical Psych.)	3
Philosophy 222 (Ethics)	2
Psychology 228 (Statistical Methods)	3
Psychology 329 (Personality)	3
	17

Third Year Honours

R. K. 24 or 24C or option	2
Pol. Sc. 212	3
Philosophy 327 (History of Medieval Philosophy)	3
Philosophy 334 (Metaphysics)	3
Psychology 330 (Experimental)	2 (+ 2 lab.)
Psychology 331 (Abnormal) and attendance at Seminar	3
	16/2

Fourth Year Honours

R. K. 34 or 34C or option	2
Option	3
Any two full Honours courses in Philosophy as approved by the Department	6
Any two full Honours courses in Psychology as approved by the Department	6
	17

*Required unless previously taken.

XIII. HONOURS PSYCHOLOGY

Admission requirements: Nine Grade XIII papers, including English (2 papers); another language (2 papers); and **either** Mathematics (2 papers) or another language (2 papers) and any other 3 papers, **or** Music and any other 4 papers; or equivalent subjects of Preliminary Year (see p. 42).

First Year General

	Hrs./wk.
English 15, Speech 15y, Library Science	4
Language 12 (or 2)	3
Religious Knowledge 14 or 14C or option	2
Philosophy 15 (or 25)	3
One of: Economics 15 or 19 or History 10	3
Psychology 15	3
	18

For admission to Second Year Honours, an overall average of at least 60% is required, and 66% in Psychology 15.

Second Year Honours

R. K. 24 or 24C or option		2
Philosophy 25 or option		3
Philosophy 28a (Philosophical Psychology)	(1st sem)	3
Psychology 222 (Child and Adolescent Psychology)		
Psychology 228 (Statistical Methods)		3
Psychology 233a (Applied) or 226a (Educational)	(1st sem)	3
Psychology 233b (Physiological)	(2nd sem)	3
Psychology 331 (Abnormal)		3
		17 & 14

Third Year Honours

Option	3
R. K. 34 or 34C or option	2
Psychology 327 (Tests and Measurements)	3
Psychology 329 (Personality)	3
Psychology 330 (Experimental)	2 (+ 2 lab.)
Psychology 334 (Social)	3
	16/2

Fourth Year Honours

Two options	6
Psychology 450 (Projective Techniques)	3
Psychology 451 (Advanced Statistics)	3
Psychology 452 (Emotions)	3
Psychology 453 (Learning)	3
	18

Note: Options are to be approved by the Department; it is recommended that at least one be in Biology and one in Physics.

THE SCHOOL OF BUSINESS ADMINISTRATION

BACHELOR OF COMMERCE

The purpose of the **Bachelor of Commerce** course is to produce educated men and women with a grounding in business ideas and techniques which will help equip them for positions of responsibility in industry and commerce. The course is designed to provide the broad outlook needed in modern business. In line with this objective, the first two years of the course emphasize the humanities and the social and physical sciences; the last two years provide for concentration in the Business Administration subjects, with three options taken outside the field of business.

Students in this course are not trained specifically as technicians, but are taught general procedure and methods of attack on problems. They are accustomed to independent study, and are encouraged to grapple with business problems on their own. The course is designed moreover to give students some awareness of the position and significance of business in the world today.

Students who, after achieving the B. Comm. degree, intend to become professional accountants, should consult the Director of the School of Business Administration before entering the final year of the Commerce Course, and are also referred to the special circulars covering the various accounting bodies.

HONOURS BUSINESS ADMINISTRATION

Admission requirements: Nine Grade XIII papers including English (2 papers), another language (2 papers), Mathematics (Algebra and Geometry or Trigonometry), and three others papers; OR Preliminary University year (including Mathematics 4) (see p. 42); and the following:

FIRST YEAR:

English 15
Speech 15y and Library Science
Language 2 or 12
Philosophy 15
Religious Knowledge 14 or 14C or option
Bus. Ad. 15 (Business Organization & Management)
Economics 19§ (Principles of Economics)

§Economics 15 may be accepted at the discretion of the Director of the School of Business Administration.

Second Year Honours

Philosophy 25
R.K. 24 or 24C or Philosophy 22
English 21 (Business English)
Mathematics 13b (Mathematics of Investment)
Bus. Ad. 250 (Principles of Accounting)
Economics 223 (Money and Banking)

One of: Economics 237 (Econ. Hist. of Europe & the United States)
Economics 338 (Econ. Hist., Current Econ. Pol. of Canada)

Third Year Honours

One full course outside the field of Bus. Ad.
Bus. Ad. 346 (Personnel Management, Industrial Relations)
350‡ (Intermediate Accounting) or 360 (Management Accounting)
351 (Principles of Marketing)
353 (Corporate Financial Policies)
370 (Production Management)

Fourth Year Honours

Two full courses outside the field of Bus. Ad.
Bus. Ad. 455 (Statistical Methods in Business)
480 (Business Policy, Administrative Practices)

Two full courses from:

Bus. Ad. 356‡ (Commercial Law)
450a‡ (Advanced Accounting)
450b‡ (Tax Accounting)
451a (Advertising)
451b (Sales Management)
452a (Market Research)
452b (Retailing)
453 (Investment Fundamentals & Management)
456b (Advanced Personnel Management)
457b (Business Conditions)
459 (Business Research)
460a‡ (Auditing)
470y‡ (Cost Accounting)

‡Required for those intending to pursue an accounting career after graduation.

DIPLOMA COURSE IN MANAGEMENT

This is a one-year course for university graduates who have obtained a degree other than the Bachelor of Commerce or equivalent; the program is intended for persons who have not majored in Business Administration on their undergraduate programs. The following are the prescribed courses:

Bus. Ad. 489 (Accounting)
490 (Statistical Methods in Business)
491 (Marketing)
493 (Corporation Finance)
494 (Production)
496 (Introduction to Administration)

An overall "C" average in the six courses is necessary to obtain the Diploma. A student who has not completed a formal course in the principles of economics must make up the deficiency. A student completing the above courses with a "B" average may be admitted to the second year of the M.B.A. program.

CERTIFICATE IN BUSINESS ADMINISTRATION

First Year
Business Administration 15 (1 evening, 2 hours)
Economics 15 or 19 (1 evening, 2 hours)

Second Year
Business Administration 250 (1 evening, 3 hours)
Business Administration 346 (1 evening, 3 hours)

Third Year
Any two full-year senior Business Administration subjects not already taken (2 evenings, 3 hours each).

This program may be pursued only in the Evening Division. The minimum time for completion is three years; it may be spread over a longer period if the student wishes. These courses may be applied towards a Bachelor of Commerce degree.

This program is designed primarily for business men with experience. Applicants under twenty-five years of age will be expected to have Senior Matriculation standing or equivalent. Extension courses are available for this purpose.

The average required for the Certificate in Business Administration is an overall "C" average in the six courses. Supplemental examinations may not be written in any subjects which are to be counted for the certificate. In the event that an applicant has completed equivalent courses elsewhere, he may substitute other courses with the consent of the School of Business Administration.

BACHELOR OF COMMERCE†

Third Year (Last offered in 1960-61)

R.K. 24 or 24C or Philosophy 22

Bus. Ad. 346 (Personnel Management, Industrial Relations)

Bus. Ad. 353 (Corporate Financial Policies)

Bus. Ad. 360 (Management Accounting) or 350‡ (Intermediate Accounting)

Bus. Ad. 455 (Statistical Methods in Business)

ONE full course chosen from the following:

Bus. Ad.	370	(Production Management)
	450*	(Advanced Accounting, Tax Accounting)
	451	(Advertising, Sales Management)
	452	(Market Research, Retailing)
	453	(Investment Fundamentals & Management)
	456b	(Advanced Personnel Management)
	457b	(Business Conditions)
	460a‡	(Auditing)
	470y‡	(Cost Accounting)
	480a	(Business Policy)
	480b	(Administrative Practices)
Econ.	301	(International Trade & Finance)
Econ.	431	(Public Finance)

†No new registrants will be accepted for this course after the fall of 1958.

‡Required of Accounting Majors.

*Recommended as an additional course for Accounting Majors.

BACHELOR OF SCIENCE

GENERAL COURSE

This program may be adapted to suit the needs of students planning to enter **Teaching, Industry, Dentistry, Medicine,** or any profession requiring a background in Liberal Arts with emphasis upon the natural sciences and mathematics.

Admission requirements: Grade XIII English, French or German or Latin, Algebra, Geometry, Trigonometry, Chemistry and Physics or Preliminary Year Science (see p.) with an overall average of 60%. Students majoring in the Physical Sciences, in addition, must have an average of 60% in Chemistry, Mathematics and Physics. (Applicants intending to major in Biology in the General course may be admitted with another Grade XIII paper in place of the third Mathematics paper.)

FIRST YEAR

English 15, Speech 15y, Library Science
Philosophy 15
R. K. 14 or 14C or a History
Chemistry 10

and one of the following groups:

Biological Science Option (Biochemistry, Biology and Pre-medical majors)
  Botany 10, Zoology 10
Physical Science Option (Chemistry, Mathematics, Physics majors)
  Mathematics 15, Physics 10

Students intending to take the Honours course in Chemistry, Chemistry and Physics, Mathematics and Physics (Mathematics Division), Mathematics and Physics (Physics Division) will add to this program Mathematics 11.

SECOND YEAR

R. K. 24 or 24C or Philosophy 22
Philosophy 25

and one of the following major groups:

Biology: Chemistry 22m, 23; Physics 13; Zoology 22.
Chemistry: Chemistry 22, 23, 24; Physics 26.
Mathematics: Mathematics 11 (if taken previously, one of Mathematics 22, 27, 32); Mathematics 25; Physics 26.
Physics: Physics 22, 23; Mathematics 25x.

THIRD YEAR

R. K. 34 or 34C or option
Humanities option

and one of the following major groups:

Biology: Chemistry 36x, 3½ of: Botany 26, 30a, 30b; Zoology 24a, 26, 27, 28, 29y, 30b, 37a.
Chemistry: Chemistry 34, 2 of: 36, 38, 332, 335.
Mathematics: Mathematics 33; and 2 of: Mathematics 22, 27, 32, 37.
Physics: Physics 36; and 2 other Physics.

Notes:

1. The consent of the department concerned is required for choosing a particular major.

2. In choosing subjects students shall bear in mind the prescriptions of the catalogue regarding major and minor requirements and prerequisites. They will have the assistance of members of the staff in planning their programs for each year. **Students intending to seek admission to graduate and professional schools should choose their options in accordance with the requirements for admission of these institutions.**

3. Options in Second and Third Years shall be chosen in consultation with the head of the department in which the student is majoring.

4. Students who enter Second or Third Year without conditions may be permitted by the Dean of Arts and Science to elect one additional option in the humanities each year.

5. **Pre-Medical Technology**—Students intending to enter schools of Medical Technology will follow the same program as Biology majors.

6. **Pre-Nursing**—See p. 42.

7. **Pre-Optometry**—Students seeking to qualify for admission to Optometry are advised to complete First Year Science with Physical Sciences option, substituting Zoology 10 and Psychology 15 for Chemistry 10 and R. K. 14 or 14C or a History.

8. A student in the General course may, with the consent of the Dean and the Department concerned, substitute an Honours subject in place of a General course subject in his major field, provided he has the necessary prerequisites and fulfills the conditions attaching to an Honours subject.

9. Students intending to enter the teaching profession through the Ontario College of Education, see regulations on pp. 47-48.

PRE-MEDICINE

A student intending to apply for admission to a School of Medicine should take the general science program (p. 83) with major in Biology. The student is advised to study carefully the requirements of the particular Medical School to which he seeks admission, as there is some variation, both with respect to choice of subjects and number of years' study required for entry. The student should consult the head of the Department of Biology early in his program with respect to his choice of subjects.

PHARMACY.

Admission requirements: Completion of Grade XIII English; two of Algebra, Geometry, Trigonometry; Physics and Chemistry; an additional language; one of Botany, Geography, History, another Math paper, Music, Zoology; OR Preliminary Year Science (see p. 42). 60% overall average required.

First Year

Botany 10
Chemistry 10
English 15
Physics 13
Zoology 10
French 12 or Philosophy 15 or German 12 or Latin 12 or Political Science 12 or Sociology 12

(For admission to Second Year Pharmacy at University of Toronto, a 60% overall average, and 60% average in Science subjects, is required.)

HONOURS COURSES

Honours courses are characterized by strict prescriptions of studies and high standards of performance, more especially within those departments in which the major and minor subjects have been selected. These courses are one year longer than the General Courses.

I. HONOURS BIOLOGY

Admission requirements: Grade XIII: nine papers including English (2 papers), another Language (2 papers), Mathematics (3 papers), Physics and Chemistry; or the equivalent subjects of Preliminary Year, with an overall average of at least 60%. (See page 42).

First Year General

	Hrs./wk.	
	Lect.	Lab.
English 15, Speech 15y, Library Science	4	
Philosophy 15 (or 25)	3	
Religious Knowledge 14 or 14C, or option	2	
Chemistry 10	3	3
Botany 10	2	3
Zoology 10	2	3
	13	9

For admission to Second Year Honours, the student must obtain an average of at least 66% in Botany, and Zoology, and an overall average of at least 60%.

Second Year Honours

Religious Knowledge 24 or 24C, or Philosophy 22	2	
Physics 13	3	3
Chemistry 222 (Quantitative Analysis)	2	3
Chemistry 223 (Organic)	3	3
Botany 243 (Plant Taxonomy)	2	3
Zoology 231 (Comparative Vertebrate Anatomy)	3	4
	15	16

Third Year Honours

Philosophy 25 or Option	3	
Mathematics 15 or Option	3	
Chemistry 346 (Biochemistry)	3	3
Botany 336 (General Microbiology)	2	3
Botany 337y (Ecology)	2	
Zoology 330b (Cellular Physiology)	2	3
One of: Botany 333 (Green Cryptogams)	2	3
Zoology 333 (Histology)		
(Attendance at Seminars required)		
	17	12

Fourth Year Honours

Religious Knowledge 34 or 34C, or Option	2	
Zoology 436 (Entomology)	2	3
Zoology 438y (Genetics)	2	
Zoology 441a (History of Biology)	3	
Zoology 442b (Evolution)	3	
One of: Botany 440a (Plant Physiology)	3	3
Zoology 440a (Animal Physiology)	2	3
One of: Botany 400 (Problems)		
Zoology 400 (Problems		
Zoology 443 (Biotechniques)	2	3
One of: Botany 446 (Mycology)		
Zoology 335 (Invertebrate)		
Zoology 432a and 447b (Embryology and Parasitology)	2	3
(Attendance at Seminars required)		
	(19, 12) or (18,	12)

II. HONOURS CHEMISTRY

Admission requirements: Grade XIII English (2 papers), Language (2 papers), Algebra, Geometry, Trigonometry, Physics and Chemistry, with an average of at least 60% in Mathematics, Physics and Chemistry, and an overall average of 60%; or the equivalent subjects and grades of the Preliminary Year. (See p. 42).

First Year General

	Hrs./wk.	
	Lect.	Lab.
English 15, Speech 15y, Library Science	4	
Philosophy 15 (or 25)	3	
Religious Knowledge 14, or 14C, or a History	2	
Chemistry 10	3	3
Physics 10	3	3
Mathematics 11	2	2
Mathematics 15	3	
	20	8

For admission to Second Year Honours, the student must obtain at least 66% in Chemistry, 60% in Mathematics and Physics, and an overall average of 60%.

Second Year Honours

Religious Knowledge 24, or 24C, or Philosophy 22	2	
Philosophy 25 or option	3	
Mathematics 25x	4	
Physics 26	3	3
Chemistry 232 (Quantitative Analysis)	2	6
Chemistry 223 (Organic)	3	3
Chemistry 224 (Physical Chemistry I)	2	
	19	12

Third Year Honours

Religious Knowledge 34, or 34C, or option	2	
German or Russian A, or option	3	
Mathematics 35x	2	
Chemistry 332 (Intermediate Analytical)	2	3
Chemistry 333 (Intermediate Organic)	2	4½
Chemistry 335 (Inorganic)	2	1½
Chemistry 344 (Physical Chemistry II)	3	6
	16	15

Fourth Year Honours

German 2 or Russian 2 or option	3	
Physics 36x (Modern) or Chemistry 346x (Biochemistry)	2 or 3	
Chemistry 444x (Physical Chemistry III)	3	
Chemistry 454 (Physical Chemistry IV)	3	
Chemistry 449 (Research)	1	15
Chemistry 450y (Seminar)	1	
	14	15

III. HONOURS CHEMISTRY AND BIOLOGY (BIOCHEMISTRY)

Admission requirements: Grade XIII: English (2 papers), Language (2 papers), Algebra, Geometry, Trigonometry, Physics and Chemistry, with an average of 60% in Chemistry, Mathematics and Physics and an overall average of 60%; or the equivalent subjects and grades of Preliminary Year (see p. 42).

Graduation in this course with at least second class honours qualifies a student for admission to the Type A course in Chemistry and Biology at the Ontario College of Education.

First Year General

	Hrs./wk. Lect.	Lab.
English 15, Speech 15y, Library Science	4	
Religious Knowledge 14, or 14C, or History	2	
Philosophy 15 (or 25)	3	
Chemistry 10	3	3
Botany 10	2	3
Zoology 10	2	3
	16	9

For admission to Second Year Honours, the student must obtain at least 66% in Chemistry, 66% in Botany and Zoology, and an overall average of at least 60%.

Second Year Honours

	Lect.	Lab.
Religious Knowledge 24, or 24C, or Philosophy 22	2	
Philosophy 25 or option	3	
Mathematics 15	3	
Physics 10	3	3
Chemistry 222: (Quantitative Analysis)	2	3
Chemistry 223 Organic)	3	3
Zoology 231 (Comparative Vertebrate Zoology)	3	4
	19	13

Third Year Honours

	Lect.	Lab.
Religious Knowledge 34, or 34C, or option	2	
Physics 26	3	3
Chemistry 224 (Physical Chemistry I)	2	
Chemistry 333 (Intermediate Organic)	2	4½
Chemistry 346 (Biochemistry)	3	3
Botany 336 (Bacteriology)	2	3
Botany 337y (Ecology)	2	
Zoology 330b (Cellular Physiology)	1	1½
	17	15

Fourth Year Honours

	Lect.	Lab.
French A or German A or option	3	
Chemistry 444 (Physical Chemistry III)	3	3
Chemistry 446 (Intermediate Biochemistry)	3	6
Chemistry 451y (Seminar)	1	
Botany 440a and Zoology 440a (Physiology)	2 & 3	3
Zoology 432a (Vertebrate Embryology)	1	1½
Zoology 438y (Genetics)	2	
	15 & 16	13½

IV. HONOURS CHEMISTRY AND PHYSICS

Admission requirements: Grade XIII: English (2 papers), Language (2 papers), Algebra, Geometry, Trigonometry, Physics and Chemistry with an average of at least 60% in Mathematics, Physics and Chemistry, and an overall average of 60%; or the equivalent subjects and grades of Preliminary Year. (See p. 42).

Graduation in this course with at least second class honours qualifies a student for admission to the Type A course in Physics and Chemistry at the Ontario College of Education.

First Year General

	Hrs./wk.	
	Lect.	Lab.
English 15, Speech 15y, Library Science	4	
Philosophy 15 (or 25)	3	
Religious Knowledge 14, or 14C, or a History	2	
Chemistry 10	3	3
Physics 10	3	3
Mathematics 11	2	2
Mathematics 15	3	
	20	8

For admission to Second Year Honours, the student must obtain at least 66% in Chemistry and Physics and an overall average of at least 60%.

Second Year Honours

✓ Religious Knowledge 24, or 24C, or Philosophy 22	2	
✓ Mathematics 25x	4	
✓ Chemistry 222 (Quantitative Analysis)	2	3
✓ Chemistry 223 Organic)	3	3
Chemistry 224 (Physical Chemistry I)	2	
✓ Physics 222 (Optics)	2	3
✓ Physics 223 (Electricity and Magnetism)	2	3
	17	12

Third Year Honours

Religious Knowledge 34, or 34C, or option	2	
Philosophy 25 or option	3	
Mathematics 35x	2	
Chemistry 334 (Physical Chemistry II)	3	3
One of: Chemistry 333 (Intermediate Organic)	2	4½
Physics 350 (Theoretical Physics I)	3	
Physics 334 (Electronics)	2	
Physics 336 (Modern Physics)	2	
Physics 370/2 (Junior Laboratory)		4
	16/17	11½

Fourth Year Honours: (Chemistry Division)

German A or Russian A or option		3	
Chemistry 444	(Physical Chemistry III)	3	3
Physics 466a	(Solid State)	2	
Physics 466b	(Nuclear)		
Physics 470/1	(Senior Laboratory)		3
Chemistry 332	(Analytical)	2	3
Chemistry 335	(Inorganic)	2	1½
Chemistry 451y	(Seminar)	1	
		13	10½

Fourth Year Honours: (Physics Division)

German A or Russian A or option		3	
Chemistry 444x	(Physical Chemistry III)	3	
Physics 466a	(Solid State)	2	
Physics 466b	(Nuclear)		
Physics 450	(Theoretical Physics II)	3	
Physics 451	(Mathematical Methods)	2	
Physics 470	(Senior Laboratory)		9
		13	9

V. HONOURS MATHEMATICS

(Honours Mathematics and Physics, Mathematics Division)

Admission requirements: Grade XIII: English (2 papers), Language (2 papers), Algebra, Geometry, Trigonometry, Physics and Chemistry with an average of 60% in Chemistry, Mathematics and Physics and an overall average of 60%; or the equivalent subjects and grades of Preliminary Year. (See page 42).

Graduation in this course with at least second class honours qualifies a student for admission to the Type A course in Mathematics at the Ontario College of Education.

First Year General

	Hrs./wk. Lect.	Hrs./wk. Lab.
English 15, Speech 15y, Library Science	4	
Philosophy 15 (or 25)	3	
Religious Knowledge 14, or 14C, or History	2	
Chemistry 10	3	3
Physics 10	3	3
Mathematics 11	2	2
Mathematics 15	3	
	20	8

For admission to the Second Year Honours, the student must obtain at least 66% in Mathematics and Physics of First Year, and an overall average of at least 60%.

Second Year Honours

	Lect.	Lab.
Religious Knowledge 24, or 24C, or Philosophy 22	2	
Philosophy 25 or option	3	
Mathematics 227 (Modern Algebra)	3	
Mathematics 229 (Analytical Geometry)	2	
Mathematics 254 (Intermediate & Advanced Calculus)	3	1
Physics 222 (Optics)	2	3
Physics 223 (Electricity & Magnetism)	2	3
	17	7

Third Year Honours

	Lect.
Religious Knowledge 34, or 34C, or option	2
Option (Humanities)	2
Mathematics 300 (Analysis)	3
Mathematics 331 (Probability & Statistics)	3
Mathematics 341 (Vector Analysis & Mechanics)	3
Mathematics 354 (Differential Equations)	3
	16

Fourth Year Honours: (Pure Mathematics Option)

Option (Humanities)	2
Mathematics 400 (Topology), or option	2
Mathematics 429b (Synthetic & Analytic Projective Geom.)	1½
Mathematics 437 (Modern Algebra)	3
Mathematics 444 (Theory of Functions of a Real Variable)	3
Mathematics 448 (Complex Variable)	3
Mathematics 449a (Differential Geometry)	1½
	16

Fourth Year Honours: (Applied Mathematics)

Option (Humanities)	2
Physics 336 (Modern Physics)	2
Mathematics 448 (Complex Variable)	2
Mathematics 449a (Differential Geometry)	1½
Mathematics 449b (Relativity)	1½
Mathematics 450a (Mechanics of Continuous Media)	1½
Mathematics 450b (Electromagnetism)	1½
Mathematics 451 (Advanced Dynamics, Quantum Theory)	3
	15

VI. HONOURS PHYSICS

(Honours Mathematics and Physics, Physics Division)

Admission requirements: Grade XIII: English (2 papers), Language (2 papers), Algebra, Geometry, Trigonometry, Physics, and Chemistry with an average of at least 60% in Mathematics, Physics and Chemistry, and an overall average of 60%; or the equivalent subjects of Preliminary Year. (See page 42).

Graduation in this course with at least second class honours qualifies a student for admission to the Type A course in Mathematics and Physics at the Ontario College of Education, provided that Mathematics 453 is chosen in Fourth Year.

First Year General

	Hrs./wk.	
	Lect.	Lab.
English 15, Speech 15y, Library Science	4	
Philosophy 15 (or 25)	3	
Religious Knowledge 14, or 14C, or a History	2	
Chemistry 10	3	3
Physics 10	3	3
Mathematics 11	2	2
Mathematics 15	3	
	20	8

For admission to Second Year Honours, the student must obtain at least 66% in Mathematics and Physics of First Year, and an overall average of at least 60%.

Second Year Honours

Religious Knowledge 24, or 24C, or Philosophy 22	2	
Philosophy 25 or option	3	
Mathematics 227 (Modern Algebra)	3	
Mathematics 229 (Analytical Geometry)	2	
Mathematics 254 (Intermediate & Advanced Calculus)	3	1
Physics 222 (Optics)	2	3
Physics 223 (Electricity & Magnetism)	2	3
	17	7

Third Year Honours

Religious Knowledge 34, or 34C, or option	2	
Option (Humanities)	2	
Mathematics 354 (Differential Equations)	3	
Physics 331 (Thermodynamics)	2	
Physics 334 (Electronics)	2	
Physics 336 (Modern Physics)	2	
Physics 350 (Theoretical Physics I)	3	
Physics 370 (Junior Physics Laboratory)		6
	16	6

Fourth Year Honours

Option (Humanities)	2	
Mathematics 438a (Complex Variable)	1	
Physics 450 (Theoretical Physics II)	3	
Physics 452 (Physical Optics)	2	
Physics 466a (Solid State Physics)	2	
Physics 466b (Nuclear Physics)		
Physics 470 (Senior Physics Laboratory)		9
One of: Physics 451 (Mathematical Methods)	2	
Mathematics 453 (Mathematical Methods)		
	12	9

BACHELOR OF SCIENCE IN NURSING

I. REGULAR PROGRAM.

Admission requirements: Grade XIII English, Chemistry, Botany, Zoology, another language and one other subject (or Preliminary Year Nursing, see p. 42, and successful completion of the following year in Arts and Science.

First Year Pre-Nursing

English 15
Psychology 15
Sociology 11a
*Speech 15y, *Library Science

Biology 16a
Botany 16b
Philosophy *15a, 25b
*R. K. 24a or *Option

(*) Omit if taken in Preliminary Year.

After completing the above year, students must enter a hospital school of nursing, approved by the Head of the Department, for professional training. After completing this, students re-enter the University for an additional year of specialized preparation in the field of Nursing Education or Public Health Nursing, as follows:

Final Year (Nursing Education Option)

Psychology 21, 26a, 31
Nursing 30, 31, 32b, 33a

Final Year (Public Health Nursing Option)

Psychology 21, 26a, 31
Nursing 30, 32b, 34, 35, 39b

II. DEGREE COURSE FOR GRADUATE NURSES.

Admission requirements:

(a) Grade XIII English, Chemistry, Botany, Zoology, another language, and one other subject (or equivalent).

(b) Nurse's registration.

(c) Membership in a Provincial Association of Nurses.

Students admitted to this two-year program leading to the degree of Bachelor of Science in Nursing take the First Year and the Final Year of the Regular Program outlined above.

Applicants who hold certificates or diplomas of specialized professional study at another University are required to complete at least one semester of full-time study through the Department of Nursing of Assumption University of Windsor in addition to Arts and Science subjects of the degree course.

DIPLOMA COURSES FOR GRADUATE NURSES

Admission requirements:

(a) Grade XII complete (see p. 41). Preference will be given to applicants with Grade XIII standing.

(b) Nurse's registration.

(c) Membership in a Provincial Association of Nurses.

These courses extend over one full academic year and consist of the following subjects:

Nursing Education

Psychology 21, 26a
Philosophy 15a, 25b
Sociology 11a
Orientation & Library Science
Nursing 30, 31, 32b, 33a
Conference and seminars

Public Health Nursing

Psychology 21, 26a
Philosophy 15a, 25b
Sociology 11a
Orientation & Library Science
Nursing 30, 32b, 34, 35, 39b

Observation periods, a few seminars, and field practice, are component parts of the course on both diploma and degree levels.

DETAILS OF SUBJECTS

Subject Code

Courses in the Preliminary Year are numbered 1-9 (General); courses in the First Year are numbered 10-19 (General); courses in the Second Year are numbered 20-29 (General) and 200-299 (Honours); courses in the Third Year are numbered 30-39 (General) and 300-399 (Honours); courses in the Fourth Year are numbered 400-499 (Honours). Graduate courses are numbered 500-599.

A course designated by the letter "A" only, is, in difficulty and weight, equal to a Secondary School Grade Twelve (Ontario) course in the same subject.

Every subject extends over the complete academic year (two semesters) and counts as a full course, except where otherwise indicated. A course whose number is followed by "a", "b", or "y" is a half course, given usually in the first semester, the second semester, or throughout the year, respectively. For semester hour equivalents, see p. 154.

The above code was adopted in 1958.

ANTHROPOLOGY

Officer of Instruction: Assistant Professor: Charles Fay, M.A., Ph.D.

10. **Introduction to Anthropology:** A study of the social organization and cultural heritage of ancient, primitive and complex cultures.

3 hours a week.

BIOLOGY

Officers of Instruction: Professor: Rev. A. J. Grant, C.S.B., M.A. (Department Head); Associate Professors: W. G. Benedict, Ph.D.; R. J. Doyle, M.A., M.S.; Assistant Professors: C. C. Kuehner, Ph.D.; *Miss M. L. Moss, M.S.; Lecturers: Rev. J. R. Dougherty, C.S.B., M.S.; H. D. McCurdy, Ph.D.; Sr. Michael Mary, S.N.J.M., B.A.; M. L. Petras, M.Sc.

(*) On leave of absence.

For major in general course, see p. 83; for Honours Biochemistry, see p. 88; for Honours Biology, p. 86; for graduate courses, p. 196.

I. Biology

1. **Principles of Biology:** The fundamental principles of biology with stress on the cell as a unit, the origin and preservation of the individual and the race, the mode of inheritance, and the applications of biology to social and economic problems. Illustrated by examples from the botanical and zoological fields.

2 lectures, 3 laboratory hours a week.

16a. **Chemical Aspects of Biology:** An introduction to chemical principles and organic compounds of biological application. This course is intended for students of nursing, and other fields, who desire a brief introduction to biological chemistry. It is a prerequisite for Botany 16b. (Prerequisites: Biology 1, Chemistry 1a).

3 lectures, 3 laboratory hours per week; one semester (half course).

II. Botany

1a. **Elementary Botany:** The basic principles of Botany, including a brief survey of the plant kingdom.

2 lectures, 3 laboratory hours a week; one semester (half course).

10. **Introductory Botany:** Properties and activities of protoplasm and the anatomy and physiology of roots, stems, leaves, flowers and fruits. Type forms are studied as to their taxonomy, structure, growth, reproduction, ecology and economic importance of the Thallophytes, Bryophytes and Tracheophytes.

2 lectures and 3 laboratory hours a week.

16b. **Bacteriology for Nurses:** A survey of elementary bacteriology including structure, classification and physiology of bacteria with examination of the micro-organisms of medical importance. (Prerequisites: Biology 1 and 16a, Chemistry 1a).

3 lectures and 3 laboratory hours a week; one semester (half course).

26. **General Microbiology:** Introduction to the structure, reproduction, classification, growth and metabolism and control and death of fungi, bacteria and viruses. The special aspects of microbiology, such as sanitary microbiology, immunology, industrial microbiology, microbial genetics and microbiology of special environments will also be surveyed. (Prerequisites: Zoology 10 and Botany 10 and Physics 13 and Chemistry 23).

2 lectures, 3 laboratory hours a week.

30a. **General Mycology:** A study of the characteristics, habits, and life-histories of various groups of true fungi. (Prerequisites: Botany 10 and 26, Chemistry 10, Zoology 10).

2 lectures, 3 laboratory hours a week; one semester (half course).

30b. **Clinical Mycology:** A study of the characteristics, habits, and life-histories of the various groups of higher fungi having clinical importance. Special emphasis is placed upon techniques and morphological characteristics used in the identification of the various mycoses. (Prerequisites: Botany 26, Chemistry 10).

2 lectures, 3 laboratory hours a week; one semester (half course).

Honours Courses

243. **Plant Taxonomy:** Collection, identification and classification of the flowering plants. (Prerequisite: Botany 10).
2 lectures and 3 laboratory hours a week.

333. **Green Cryptogams:** Gross and microscopic analysis, collection and identification of representative members of the green nonflowering plants up to and including the Pteropsida. (Prerequisite: Botany 10).
2 lectures, 3 laboratory hours a week.

336. **General Microbiology:** A survey of the important groups of micro-organisms with emphasis upon the bacteria and viruses. Major topics considered will be the cytology, taxonomy, growth, nutrition, physiology, death and variation of these organisms. Minor topics will include host-parasite relations, pathogenicity, chemotherapy, water, food and soil bacteriology. (Prerequisites: Botany 10, Chemistry 23, Zoology 231; Chemistry 36 is advised as a co-requisite).
2 lectures, 3 laboratory hours a week.

337y. **Ecology:** The study of organisms in relation to their environment. Individual plants and animals are treated, as well as communities and populations. (Prerequisites: Botany 10 and Zoology 10).
2 lectures a week plus field trips (half course).

400. **Undergraduate Problems Course in Botany:** The preparation of weekly reading assignments, the collection and preservation of specimens, cultures, slide preparations, etc.; the successful completion of written and oral examinations at the discretion of the Department.
(Full course.)

440a. **Plant Physiology:** Study of the plant with regards to nutrition, metabolism, growth, absorption and translocation, permeability, and water relations. (Prerequisites: Chemistry 23, Botany 10, and Zoology 330b).
2 lectures and 3 laboratory hours a week, one semester (half course).

446. **General and Clinical Mycology:** A study of the characteristics, habits, and life histories of the various groups of true fungi. In the laboratory, techniques and identification of the clinically important fungi will be included. (Prerequisites: Botany 336 and Chemistry 36).
2 lectures, 3 laboratory hours a week.

III. Zoology

1a. **Introductory Zoology:** The principles of animal biology as illustrated by the study of certain typical forms; for students in Nursing and Home Economics.

2 lectures, 3 laboratory hours a week; one semester (half course).

10. **Introductory Zoology:** The principles of animal biology as illustrated by a study of the structure and physiology of representative forms.

2 lectures, 3 laboratory hours a week.

22. **Comparative Vertebrate Zoology:** Comparative function and structure of vertebrate organ systems. (Prerequisite: Zoology 10 or Biology 1 (60%)).

3 lectures, 4 laboratory hours a week.

24a. **Embryology:** Origin and development of vertebrates. (Prerequisite: Zoology 22).

2 lectures, 3 laboratory hours a week; one semester (half course).

26. **Histology:** Microscopic study of epithelium, connective tissues, blood, muscles and nerves. Also a detailed study of the organs and organ systems of the body. (Prerequisite: Zoology 22).

2 lectures and 3 laboratory hours a week.

27. **Invertebrate Zoology:** A survey of the principal lower animals, including their life cycles, comparative anatomy, physiology and embryology. (Prerequisite: Zoology 10 or Biology 1 (60%)).

2 lectures and 3 laboratory hours a week.

28. **General Entomology:** Internal anatomy and physiology; external anatomy and its extension into the methods of classifying and identifying insect families. Introduction to the paleontological rise of insects, ecological studies and the control of insect pests. (Prerequisites: Zoology 10 or Biology 1 (60%), Botany 10).

2 lectures and 3 laboratory hours a week.

29y. **Principles of Genetics:** An introduction to Mendelian inheritance, chromosome and gene theory, and the genetic concept of species. (Prerequisite: Zoology 10 or Biology 1 and Math 1y or 4).

2 lectures a week (half course).

30b. **Cellular Physiology:** This course is designed to acquaint the student with the general principles and methods of cellular physiology and with laboratory techniques used in physiological investigation. (Prerequisites: Chemistry 23 and Physics 13. Corequisite: Chemistry 36x).

2 lectures, 3 laboratory hours a week; one semester (half course).

37a. **Parasitology:** A study of the various groups of animal parasites from the point of view of morphology, systematics and life history. In the laboratory, the methods of diagnosis of human diseases caused by parasitic protozoa and helminths will be emphasized. (Prerequisite: Zoology 10).

2 lectures, 3 laboratory hours a week; one semester (half course).

Honours Courses

231. **Comparative Vertebrate Zoology:** Phylogeny of the chordates; comparative analysis of the various organ systems and their physiology in chordates; selected reading and discussions. (Prerequisite: Zoology 10).

3 lectures, 4 laboratory hours a week.

330b. **Cellular Physiology:** An introduction to the principal problems and methods of cellular physiology including the effects of environmental factors, structure and function of cell organelles and plasma membrane; growth, respiration and irritability. The laboratory is designed to familiarize the student with some of the basic techniques employed in physiological investigation, notably manometric and electrometric methods. One term paper will be required. (Prerequisites: Chemistry 23, Physics 13; corequisite: Chemistry 36).

2 lectures, 3 laboratory hours a week; one semester (half course).

333. **Histology:** A microscopic study of the various tissues and organs with emphasis upon structure as related to function. The first semester is a survey of tissues: epithelium, blood, connective tissue, nervous tissue, cartilage and bone. The second semester is a survey of the various systems: nervous, integumentary, circulatory, digestive, respiratory, urinary, endocrine and the system of sensory receptors. (Prerequisite: Zoology 231).

2 lectures, 3 laboratory hours a week.

335. **Comparative Invertebrate Zoology:** Phylogeny of the invertebrates; morphology; discussion of various systems and their function; life cycles; embryology; local invertebrate fauna. (Prerequisite: Zoology 10).

2 lectures, 3 laboratory hours a week.

400. **Undergraduate Problems Course in Zoology:** The preparation of weekly reading assignments, the collection and preservation of specimens, cultures, slide preparations, etc., and the successful completion of written and oral examinations at the discretion of the Department.

(Full course.)

432a. **Comparative Vertebrate Embryology:** Development of the vertebrates, based mainly on mammalian development, with frequent references to other vertebrates, especially birds; individual projects and reports. (Prerequisite: Zoology 231).

2 lectures, 3 laboratory hours a week; one semester (half course).

436. **Entomology:** Anatomy, physiology and morphology of the insect body in relation to the identification and classification of insects. Further studies on paleontology, ecology and control of economically important insects. A collection of 100 suitably mounted and named insects is required of each student in this course.

2 lectures, 3 laboratory hours a week.

438y. **Genetics:** An introduction to Mendelian genetics, chromosome and gene theory, genetic cytology and structure of genetic apparatus, linkage and crossing-over, sex-determination and linkage, cytogenetic aberrations, the nature and action of the gene, mutation and population genetics. (Prerequisites: Chemistry 36, Mathematics 1y or 4, Zoology 10).

2 lectures a week (half course).

440a. **Animal Physiology:** A survey of the functions of the animal body with emphasis on the principles of chemistry and physics involved. Major topics considered will be blood and circulation, neuromuscular physiology, respiration, digestion, metabolism, endocrine glands, renal function and the nervous system. (Prerequisites: Chemistry 23, Physics 13, Zoology 231 or 22).

3 lectures, 3 laboratory hours a week; one semester (half course).

441a. **History of Biology:** A study of the main contributions to Biology from the Greek period to the present time.

3 lectures a week, one semester (half course).

442b. **Evolution:** Topics included are history of evolution, basic evidence for evolution, summary of phylogeny of plants and animals, processes of evolution in terms of recent work, and the evaluation of evolution in terms of philosophy.

3 lectures a week, one semester (half course).

443. **Biotechniques:** Topics included are photography as applied to Biology, advanced microtechnique in Bacteriology and Histology, instrumentation (principles and methods of use of some instruments used in biological research) and the preparation of animals for anatomical and morphological studies.

2 lectures and 3 laboratory hours a week.

447b. **Parasitology:** A study of the various groups of animal parasites from the point of view of morphology, systematics and life history. In the laboratory, the methods of diagnosis of human diseases caused by parasitic protozoa and helminths will be emphasized and the identification of arthropods of medical significance will be considered. (Prerequisites: Zoology 10, Chemistry 36; Zoology 333 recommended).

2 lectures, 3 laboratory hours a week; one semester (half course).

BUSINESS ADMINISTRATION

Officers of Instruction: Professor: G. R. Horne, Ph.D. (Director); Assistant Professors: J. M. Brownlie, M.B.A.; J. B. Gertz, M.B.A.; M. Zin, M.B.A.; Lecturers: W. Hanson, M.B.A.; Instructors: C. M. Birch, Ph.D.; D. A. Flock, B.A., LL.B.; R. W. Meanwell, B.A., C.A.

For Honours Business Administration program, see p. 79; for general Bachelor of Commerce, p. 82; for Diploma course, p. 81; for Certificate, p. 81; for graduate courses, p. 193.

15. **A Survey Course in Business Organization and Management:** A study of business organization, promotion of business enterprises, business finance, industrial management, marketing, administrative controls and investment policies, with the aid of cases.

3 hours a week.

Honours Courses

250. **Principles of Accounting:** An introduction to accounting concepts and techniques as tools for administration of the economic activity of the business enterprise; recording, reporting and interpreting the financial data of the business unit.

3 lectures, 2 laboratory hours a week.

346a. **Introduction to Personnel Management:** An analysis of the basic principles and procedures to be used in organizing and motivating a work force, with special emphasis on the role of the personnel staff specialist. Recruitment, selection and placement of employees, occupational movements, wage and salary administration, employee services, and education and training of employees and executives.

3 hours a week, one semester (half course).

346b. **Industrial Relations:** The impact of management and union institutions on employee relations. The case method is used in covering such topics as labour union structure, aims and operations, management objectives and functions, collective bargaining agreements, industrial conflict and dispute settlements, labour relations legislation and public intervention in management-union activities.

3 hours a week, one semester (half course).

350. **Intermediate Accounting:** Cash and receivables, inventories, investments, plant assets and depreciation, wasting assets and depletion, intangibles, accounting for capital stock, dividends, surplus, reserves, bonds. Some attention is devoted to statement analysis and special statements, including the statement of application and source of funds.

3 hours a week.

351. **Principles of Marketing:** An introduction to the major problems of management in moving goods from the producer to the consumer. The development of skill in weighing alternatives and reaching mature decisions is a significant objective of the course.
3 hours a week.

353. **Corporate Financial Policies:** The first semester reviews the fundamentals of business finance, applying financial principles to the several forms of business organization. The second semester uses the case method to study the problems of financial management confronting large and small businesses. Some aspects of working capital management are studied, as well as an attempt through the analysis of cases to develop sound principles and practices to deal with such matters as corporate capitalization, valuation, capital raising, income administration, and corporate reorganization.
3 hours a week.

356. **Commercial Law:** Legal approach to business problems. Nature and source of law, crimes, torts, contracts, agency partnerships, corporations, real and personal property, sales, negotiable instruments, insurance and bankruptcy. A combination of case and textbook approach.
3 hours a week.

360. **Management Accounting:** Intended for the users of accounting information. Although procedures and techniques are not ignored, the emphasis is on the way in which accounting information can be used in the management process.
3 hours a week.

370. **Production Management:** The problems and methods of analysis applicable to the manufacturing function in modern enterprise. Purchasing, inventory control, production planning and control, methods study and work simplification, work standards, wage determination, cost control, plant location and layout. Case study and report writing are major aspects of the course.
3 hours a week.

450a. **Advanced Accounting:** Home office and branch relations; consolidated statements; governmental accounting; social accounting; special accounting problems; accounting literature and modern thought.
3 hours a week, one semester (half course).

450b. **Tax Accounting:** Through the use of problems, a survey is made of the Canadian income tax structure and practice, and its effect on individuals, partnerships, and corporations. The course also deals with estate planning and gift taxes.
3 hours a week, one semester (half course).

451a. **Advertising:** A study of principles and methods of advertising, involving such areas as media, selection, programs, integration and demand factors. Primary emphasis is placed on advertising of consumer products from the point of view of the manufacturer, rather than that of the advertising agency or retailer.

3 hours a week, one semester (half course).

451b. **Sales Management:** The organization and management of the selling operation, including product development, branding, testing, sales organization and programs, training compensation, pricing.

3 hours a week, one semester (half course).

452a. **Market Research:** The use of analytical methods to improve the efficiency of marketing operations; development of a broad understanding of the uses and methods of research as applied to marketing.

3 hours a week, one semester (half course).

452b. **Retailing:** A study of marketing, sales management, advertising and research methods as they apply specifically to the retail field. The approach is from the point of view of both the large and the small retailer.

3 hours a week, one semester (half course).

453. **Investment Fundamentals and Management:** (i) First semester: the various types of corporate securities considered from the viewpoint of the individual investor; techniques of the security analyst in appraising securities. (ii) Second semester: the needs of different classes of investors and the shaping of portfolios to fulfill these needs; problems of the individual and the institutional investor.

3 hours a week.

455. **Statistical Methods in Business:** The use of tables and charts, ratios and percentages, computation and use of averages, measures of dispersion, index numbers. In the second semester, time series and correlation are studied. By the use of cases, an attempt is made to illustrate the application of statistical methods in business.

2 lectures, 2 laboratory hours a week.

456b. **Advanced Personnel Management:** Practical application of personnel principles and techniques to specific situations by use of the case-study method. The student is required to apply the logic of effective thinking to the solution of representative personnel problems. The methodology by which a course of action is determined is stressed, rather than the solution itself. (Prerequisite: Bus. Ad. 346a).

3 hours a week, one semester (half course).

457b. **Business Conditions:** The purpose of this course is to provide background and training in the appraisal of the environment in which business operates. The course deals with the nature and causes of business fluctuations and the forecasting and control of such fluctuations.

3 hours a week, one semester (half course).

459. **Business Research:** An introduction to research methods. The student will select a topic and, under direction, investigate and report upon it. Hours to be arranged (full course).

460a. **Auditing:** The duties and responsibilities of the auditor. Auditing procedure is studied with respect to the examination of business records and documents in order to determine their authenticity and the reliability of statements prepared from them. Attention is given to the problem of internal control. A sound knowledge of accounting principles is required for the course, which provides for an extensive review of that subject.

3 hours a week, one semester (half course).

470y. **Cost Accounting:** Development of accounting information which will help management in the minimization of the manufacturing and operating costs of the business; cost accounting systems applicable to various types of production methods; problems of burden allocation, analysis of variances, flexible budgets, the use of standard costs as a device for cost control.

2 hours a week (half course).

480a. **Business Policy:** Application of the principles and techniques acquired in the basic courses to comprehensive management problems.

3 hours a week, one semester (half course).

480b. **Administrative Practices:** An analysis of problems arising in the field of human relations throughout the various areas of business enterprise.

3 hours a week, one semester (half course).

489. **Accounting:** Accounting concepts and techniques as tools for the administration of the economic activity of the business enterprise.

3 hours a week.

490. **Statistical Methods in Business:** The traditional topics of descriptive statistics: frequency distributions, measures of location and variation, correlation, index numbers, and time series. The newer topics of statistical inference: theoretical distributions, sampling distributions, problems of estimation, tests of hypotheses and problems of sampling.

3 hours a week.

491. **Marketing:** A study of the basic considerations affecting the marketing of goods and services; marketing principles and practices.

3 hours a week.

493. **Corporation Finance:** A basic course in business finance. Taught with emphasis on analysis rather than description with the object of demonstrating principles.

3 hours a week.

494. **Production:** The problems and methods of analysis applicable to the manufacturing function in modern enterprise.

3 hours a week.

496. **Introduction to Administration:** Theories and principles of administration and their influence on the modern business organization.

3 hours a week.

CHEMISTRY

Officers of Instruction: Professors: H. H. G. Jellinek, Ph.D. (Cantab.), Ph.D. (London), Vice-Chairman; F. A. DeMarco, M.A.Sc., Ph.D.; Associate Professors: R. G. Billinghurst, M.A.Sc.; K. G. Rutherford, B.A., Ph.D.; Assistant Professors: J. J. Leddy, B.S., Ph.D.; S. J. W. Price, M.Sc., Ph.D.; R. J. Thibert, M.S., Ph.D.; ——; ——; Lecturers: *Rev. G. W. Kosicki, C.S.B., B.A., M.S.; Sr. Michael Mary, S.N.J.M., B.A.; Instructors: ——; ——.

(*) On leave of absence.

For the General course with Chemistry Major, see p. 83; for Honours Biology and Chemistry, p. 88; for Honours Chemistry, p. 87; for Honours Chemistry and Physics, p. 89; for graduate courses, p. 197.

1a. **Basic Chemistry:** An elementary course on the fundamentals of General Chemistry and the properties of the elements. Laboratory work to teach basic techniques in experimentation.

3 lectures, 3 laboratory hours a week, one semester (half course).

10. **General Chemistry and Qualitative Analysis:** A course in general chemistry with special emphasis on the physical aspects. Course includes one lecture a week on Qualitative Analysis for one semester, three laboratory hours a week; General Chemistry for one semester and three laboratory hours a week of Qualitative Analysis for one semester. (Prerequisite: Chemistry 1a or Grade XIII Chemistry).

3 lectures, 3 laboratory hours a week.

22. **Quantitative Analysis:** An introductory course in the theory and practice of quantitative analytical chemistry. (Prerequisite: Chemistry 10).

2 lectures, 3 laboratory hours a week.

22m. **Quantitative Analysis:** An introductory course in the theory and practice of quantitative analytical chemistry, with emphasis upon volumetric analysis. (Prerequisite: Chemistry 10).

2 lectures a week, both semesters; 3 laboratory hours a week, one semester (full course).

23. **Organic Chemistry:** A fundamental approach to aliphatic and aromatic chemistry with practical laboratory experience.

2 lectures, 3 laboratory hours a week.

24. **Physical Chemistry I:** Thermodynamics and chemical equilibrium. (Prerequisite: Mathematics 15).
2 lectures a week.

32b. **Instrumental Methods:** A course in the principles and applications of the most widely used instruments in chemical laboratory practices.
2 lectures, 3 laboratory hours a week, one semester (half course).

34. **Physical Chemistry II:** Changes of state, solutions and phase equilibrium, kinetic theory, electrochemistry, introduction to reaction kinetics.
3 lectures, 3 laboratory hours a week.

36. **Biochemistry:** An introductory course in biochemistry with practical laboratory exercises. (Prerequisite: Chemistry 22 and 23).
2 lectures, 3 laboratory hours a week.

36x. **Biochemistry:** The same as Chemistry 36, but without laboratory periods.
2 lectures a week.

38. **Intermediate Organic Chemistry:** An intermediate course on the application of stereochemistry, kinetics and thermodynamics to organic chemistry. Heterocyclic compounds and absorption spectra.
2 lectures, 3 laboratory hours a week.

38x. **Intermediate Organic Chemistry:** The same as Chemistry 38, but without laboratory periods.
2 lectures a week.

Honours Courses

222. **Quantitative Analysis:** An introductory course in gravimetric and volumetric analysis.
2 lectures, 3 laboratory hours a week.

223. **Organic Chemistry:** A fundamental approach to aliphatic and aromatic organic chemistry with special emphasis on the molecular orbital and resonance theories.

3 lectures, 3 laboratory hours a week.

224. **Physical Chemistry I:** Thermodynamics, chemical equilibrium. (Prerequisite: Mathematics 15).
2 lectures a week.

232. **Quantitative Analysis:** The same as Chemistry 222, but includes a total of 6 laboratory hours a week.

332. **Intermediate Analytical Chemistry:** A course on quantitative analysis involving instrumental methods and special techniques.
2 lectures, 3 laboratory hours a week.

333. **Intermediate Organic Chemistry:** An intermediate course on the application of stereochemistry, kinetics and thermodynamics to organic chemistry. Heterocyclic compounds and absorption spectra. Laboratory work includes organic qualitative analysis.
2 lectures, 4½ laboratory hours a week.

334. **Physical Chemistry II:** Changes of states, solutions and phase equilibria, kinetic theory, electrochemistry. Introduction to reaction kinetics.
3 lectures, 3 laboratory hours a week.

335. **Inorganic Chemistry:** A study of electronic structure and periodic relationships between the elements and binary compounds thereof, with emphasis on bond types, thermochemistry and structure. The descriptive chemistry of some of the more familiar inorganic species is considered, particularly in the light of the physiochemical methods used in studying these species in dry reactions, aqueous and non-aqueous solutions and gas phase reactions.
2 lectures a week.
3 laboratory hours a week; one semester.

344. **Physical Chemistry II:** The same as 334, but a total of 6 laboratory hours a week is required.

346. **Biochemistry:** An intensive general course with laboratory exercises designed to acquaint the student with the theory, problems, and laboratory procedures.
3 lectures, 3 laboratory hours a week.

346x. **Biochemistry:** The same as 346, but without laboratory.
3 lectures a week.

444. **Physical Chemistry III:** Reaction kinetics, photo and radiation chemistry, surface and colloid chemistry, chemical statistics.
3 lectures, 3 laboratory hours a week.

444x. **Physical Chemistry III:** The same as 444, but without laboratory.

3 lectures a week.

446. **Intermediate Biochemistry:** An intermediate course, including enzymes, hormones and introductory intermediary metabolism. Laboratory work includes isolation and synthesis of natural products, analytical methods, nutrition, intermediary metabolism and physical biochemistry.

3 lectures, 6 laboratory hours a week.

449. **Research:** Original laboratory research in specialized topics.

1 lecture, 15 laboratory hours a week.

450y. **Seminar:** Discussion of selected topics from current literature.

1 hour a week (half course).

451y. **Seminar:** The same as 450y, but a literature paper is also required.

1 hour a week (half course).

454. **Physical Chemistry IV:** Solid state, atomic and molecular structure, introduction to quantum chemistry, theory of liquids.

3 lectures a week.

456a. **Intermediate Biochemistry:** Enzymes and introductory intermediary metabolism.

3 lectures a week; one semester (half course).

456b. **Intermediate Biochemistry:** Hormones.

3 lectures a week; one semester (half course).

CLASSICS

Officers of Instruction: Professor: Rev. J. M. Hussey, C.S.B., M.A. (Department Head); Lecturer: Rev. D. G. Macdonald, C.S.B., M.A.

I. GREEK

A. **Elementary:** Beginner's course.
3 hours a week.

2. **Intermediate:** Plato: selected dialogues; composition; sight translation. (Prerequisite: Greek A or Grade XII Greek).
3 hours a week.

12. **Advanced:** Plato, "Crito"; Euripides, "Alcestis"; Xenophon, "Oeconomicus"; Demosthenes, "In Conovem". Composition; sight translation. (Prerequisite: Greek 2 or Grade XIII Greek).
3 hours a week.

II. LATIN

A. **Elementary:** The work of Grade XII or its equivalent is covered. 3 hours a week.

2. Selections from Latin Prose and Poetry; composition and sight translation.
3 hours a week.

12. Martial; Pliny; Virgil; Aeneid VI; composition; sight translation.
3 hours a week.

22. Catullus: Virgil, selections from the Bucolics and Georgics; selection from Horace (Odes) and the Elegaic Poets; composition and sight translation.
3 hours a week.

23. An introductory course in philosophical Latin, designed to give students in philosophy a reading knowledge of the texts of Thomas Aquinas. (Prerequisite: Latin 2 or equivalent).
2 hours a week.

24. **Ecclesiastical Latin:** Mediaeval and modern. (For prospective theological students).
3 hours a week.

31. Virgil, Aeneid I-VI; Horace, Satires, Epistles; Juvenal, Satires; composition, sight translation. (Prerequisite: Latin 22).
3 hours a week.

32y. **Readings in Latin philosophical literature:** Special attention is given to the writings of Cajetan de Vio, John of Saint Thomas, Sylvester of Ferrari, Goudin and Billuart. Consideration is also given to Descartes, Spinoza, and other modern philosophers who wrote in Latin. (Prerequisite: Latin 23).
1 hour a week (half course).

ECONOMICS AND POLITICAL SCIENCE

I. ECONOMICS

Officers of Instruction: Professor: W. G. Phillips, Ph.D. (Department Head); Associate Professor: Very Rev. F. L. Burns, C.S.B., Ph.D.; Assistant Professors: V. C. Chrypinski, Ph.D.; Z. M. Fallenbuchl, B.Sc.(Econ.), M.A.; W. L. White, M.A.; Lecturer: W. J. Gillen, M.A.

For major in the general course, see p. 63. Students in third year who have maintained standards acceptable to the department, may be permitted to select one or both of their major options from among the honours courses shown below. A combined major between Economics and Political Science may be arranged with the permission of the department. For Honours Economics and Political Science, see p. 66; for Honours History (Economics option), see p. 74; for graduate studies, p. 189.

15. **Principles of Economics:** Basic principles of economic activity, factors affecting national income, prices, income distribution, and international trade.
2 hours a week.

19. **Principles of Economics:** This course follows the same general lines as Economics 15, but takes the student to a more advanced level of economic theory and analysis.
3 hours a week.

21. **Economic Theory:** An intensive course in price theory, and some aspects of distribution theory.
3 hours a week.

23. **Money and Banking:** Theory and policy in financing economic activity.
3 hours a week.

31. **Public Finance:** Theory and policy in government finance.
3 hours a week.

34. **Introduction to Statistics:** The use of statistical methods in Economics.
2 lectures, 2 laboratory hours a week.

36. **Economics of Labour:** Problems and policies affecting labour in North America.
3 hours a week.

37a. **Economic History of Europe.**
3 hours a week, first semester (half course).

37b. **Economic History of the United States.**
3 hours a week, second semester (half course).

Honours Courses

219. **Geography of World Resources and Industries:** Trade routes and centres; the world's physical resources, their nature, utilization and transportation.
3 hours a week.

221. **Pricing Theory and Policy:** An intermediate course in demand, supply and the pricing process under the various forms of market organization; the nature of profits and the profit-making process; productivity and costs of production; special problems in the theory of monopoly and imperfect competition, with their implications for public policy. An introduction to three-variable analysis is made at the end of the course.
3 hours a week.

223. **Money and Banking:** Monetary systems; characteristics and functions of money; banking organization and current monetary problems in Canada, the United States and England. The development of contemporary monetary theories and policies.
3 hours a week.

237a. **Economic History of Europe.**
3 hours a week, first semester (half course).

237b. **Economic History of the United States.**
3 hours a week, second semester (half course).

301. **International Economics:** Theory and empirical foundations of international trade; volume and pattern of trade and capital movements; balance of payments and international monetary relations; balance of payments adjustment process and the foreign exchanges; artificial obstacles to international trade—exchange control, tariffs, quotas; current international economic problems; various regional and world-wide institutions for promotion of currency convertibility and trade; economic development of under-developed areas. 3 hours a week.

306a. **Business Cycles:** A study of the history, nature and causes of economic fluctuations as a feature of the process of economic growth; monetary and fiscal policies for maintaining full employment and preventing inflation.
3 hours a week, first semester (half course).

306b. **Economic Development:** The analysis of economic growth; cultural, social and political aspects of economic development; geographical conditions; population and labour aspects; accumulation of capital; technology and entrepreneurship; the process of transformation; domestic and international measures for the development of underdeveloped countries; the Soviet policy of economic development; alternative policies.
3 hours a week, second semester (half course).

336. **Economics of Labour:** The development and present structure of the labour movement in North America, legislation affecting the status and activities of organized labour; wage and employment problems; methods of dealing with labour disputes; policies and practices in collective bargaining.
3 hours a week.

338. **Economic History and Current Economic Policies of Canada:** The economic development of Canada from the beginning of settlement to the present day. Current problems and policies in the Canadian economy, including agriculture, transportation, resources development and anti-trust policy.
3 hours a week.

353. **Corporation Finance and Investments:** (a) The promotion and financing of business enterprises, financial controls and dividend policies. (b) The principles of investments, individual and institutional; social importance.
3 hours a week.

400. **History of Economic Thought:** (a) English classical economics and its predecessors, and the reactions against classicism on the continent. (b) The development of neo-classical and equilibrium economics. 2 hours a week.

402. **Government and Economic Life:** The nature and extent of state activity in the economic life of Canada, England, Australia, New Zealand and the United States. An examination is made of the regulatory functions of the government and direct economic intervention by government in the Commission, corporate and other forms.
2 hours a week.

410. **Modern Economic Theory (non-Monetary):** An intensive course in selected current theories of value, production and distribution, under conditions of pure and monopolistic competition.
2 hours a week.

431. **Public Finance:** The principles and problems of public finance with emphasis on the use of government finances as a stabilizing device; taxation problems, and the economics of the public debt. The second semester includes an intensive study of problems of public finance in Canada, particularly dominion-provincial fiscal relations. 2 hours a week.

432b. **The Soviet Union: Economic System:** The communist economic theory, institutions and policies as applied in the U.S.S.R. and Soviet-dominated countries. It is recommended that this course be taken in conjunction with Political Science 432a.
2 hours a week, second semester (half course).

434. **Statistical Methods:** The application of statistical methods to Economics; graphical methods and tabulation; frequency distributions; measures of central tendency and deviation; probability; the normal curve; correlation; reliability and validity; times series; index numbers. 2 lectures, 2 laboratory hours a week.

II. POLITICAL SCIENCE

For major in general course, see p. 63; for Honours Economics and Political Science, see p. 66.

12. **Introduction to Political Science.**
3 hours a week.

20. **Government of Canada:** Federal, provincial and local government. 2 hours a week.

31. **Major Foreign Governments:** Governments and politics of selected modern countries, exclusive of the Soviet Union.
3 hours a week.

Honours Courses

212. **Elements of Political Science:** (a) The state, its origin and activities; evolution, structure and function of democratic government and institutions, particularly in Canada, the United Kingdom, the United States. (b) Political ideas of Capitalism, Communism, Socialism and Fascism, and the relationship of each to modern democracy. 3 hours a week.

220. **Canadian Government and Politics:** General character of the Canadian Government and constitutional system. Structure, powers and functions of the executive, legislative and judicial branches at the national, provincial and local levels. Problems of federalism; franchise, elections, political parties, pressure groups, public opinion. 3 hours a week.

331. **Comparative Government.** The governments and politics of the United States, the United Kingdom, France, Italy and Germany. Consideration is given to the problem of European unification.
3 hours a week.

334. **The Commonwealth of Nations:** A study of the Commonwealth of Nations as an organization of autonomous nations, and a survey of the governmental structures and politics of its components.
3 hours a week.

432a. **The Soviet Union: Government and Politics:** The organization and operation of the government of the U.S.S.R. A survey of contemporary Soviet political issues and problems. (It is recommended that this course be taken in conjunction with Economics 432b). 2 hours a week, first semester (half course).

443. **International Politics:** A study of international politics and organizations; an examination of nationalism, imperialism and other fundamental and persistent forces in world politics.
2 hours a week.

452. **History of Political Thought:** (a) The development of political theory from the classical period to the end of the 18th century. (b) A critical examination of modern political theories.
2 hours a week.

ENGLISH

Officers of Instruction: Professor: Rev. C. P. Crowley, C.S.B., Ph.D. (Department Head). Associate Professor: Miss Mary Manley, Ph.D. Assistant Professors: Rev. K. J. Johnson, C.Ss.R., M.A.; E. J. McNamara, M.A.; Rev. E. C. Pappert, C.S.B., Ph.D.; J. F. Sullivan, Ph.D.; Lecturers: D. P. Kelly, M.A.; Rev. R. J. Madden, C.S.B., M.A.; H. F. Plante, M.A.

For major in general course, see p. 63; for Honours English Language and Literature, p. 67; for Honours English and French, p. 68; for Honours English and History, p. 69; for Honours English and Philosophy, pp. 70 and 71; for Honours English and Spanish, p. 72; for graduate program, p. 191.

5. **General Literature and Composition.**
4 hours a week.

11. **Communication Skills:** The methods of exposition as related to reports and business letters, with appropriate readings.
2 hours a week.

15. **General Literature and Composition:** A survey of English Literature, with emphasis on the great writers. Numerous essays and exercises will be required.
3 hours a week.

21. **Business English:** A study of the principles of expression and their application in business letters, business reports and other records. In addition, a survey of English literature. (Required for B.Comm. students).
3 hours a week.

No student will be registered in any of the following courses until he has successfully completed English 15.

22. **Literature of the Nineteenth Century.**
3 hours a week.

33y. **Creative Writing:** Limited to fifteen students. Those wishing to register in the course should submit manuscripts to the Department of English before September 1.
1 hour a week (half course).

34. **Comparative Literature.** 3 hours a week.

35. **Shakespeare:** Tragedies, Comedies and Histories. Shakespearean criticism. 3 hours a week.

36. **Modern British and American Drama.** 3 hours a week.

38. **American and Canadian Literature.** (English-Canadian only). 3 hours a week.

39. **Recent Literature in English.** 3 hours a week.

Honours Courses

Comprehensive examinations will be held at the end of the Fourth Year of all courses in English Honours.

212y. **Greek Literature in English Translation:** A survey of Greek literature for those without a reading knowledge of Greek.
1 hour a week (half course).

236. **Modern British and American Drama.**
3 hours a week.

250. **Restoration and Eighteenth Century Literature (1662 to 1780).** 2 hours a week.

254. **Criticism, Scholarship and Bibliography:** A general introduction to English studies.
2 hours a week.

333. **Philosophical Ideas in Modern English Literature:** A philosophic analysis of the ideas in contemporary poetry and fiction. Readings in Hopkins, Eliot, Yeats, Auden, Frost, Joyce, James, Woolf and others.
2 lectures, 1 seminar hour a week.

335. **Shakespeare: Tragedies, Comedies and Histories.** Shakespearean criticism.
3 hours a week.

350. **Literature of the Romantic Revival (1780-1832).**
3 hours a week.

356. **English Drama to 1642:** With particular attention to the plays of Shakespeare.
3 hours a week.

357y. **The History of the English Language.**
1 hour a week (half course).

358. **American and Canadian Literature.** (English-Canadian only). 3 hours a week.

363y. **Old and Middle English Language and Literature:** The translation of Old English prose and poetry; grammar and syntax; history of literature from the beginnings to 1150.
2 hours a week (half course).

441y. **Creative Writing.**
1 hour a week (half course).

450. **Renaissance Literature, Non-Dramatic (1500-1660).**
3 hours a week.

459. **Recent Literature in English.** 3 hours a week.

460. **Literature of the Victorian Period (1832-1900).**
3 hours a week.

463. **Advanced Middle English Language and Literature:** Chaucer and Langland; the study of representative prose and poetry. 1150-1400; history of literature.
2 hours a week.

470y. **English Tutorial:** Studies in English language and literature, directed by members of the department.
1 hour a week.

FINE ARTS

Instructor: Ivan Galantic, Dipl. di prof. d'Arte, M.A.

16. A survey of Pre-historic, Pre-hellenic, Hellenic, Roman and Early Christian Art.
3 hours a week.

23a. **Principles of Art:** Fundamentals of line and colour.
1 hour a week, first semester (half course).

26. A survey of Romanesque, Gothic and Renaissance Art.
3 hours a week.

36. A survey of Italian, Spanish, French, Dutch, German and English Art from the sixteenth to the nineteenth centuries; modern art; the art of Canada: aboriginal, French-Canadian, English-Canadian.
3 hours a week.

FRENCH

(See p. 132.)

GEOGRAPHY

Lecturer: P. E. Vandall, B.A.

For major in general program, see p. 63.

10. **Elements of Geography:** The earth as the home of man; the elements of the physical and cultural landscape with special reference to their world patterns.
2 lectures and 2 hours practical work a week.

19. **Geography of World Resources and Industries:** Trade routes and centres; the world's physical resources; their nature, utilization, and transportation.
3 hours a week.

21. **Advanced Physical and Cultural Geography:** Studies of the environmental factors and their inter-relationships with special reference to Southwestern Ontario. (Prerequisite: Geography 10).
2 lectures and 2 hours practical work a week.

24. **World Regional Geography.** (Prerequisites: Geography 10, 19, or equivalent).
3 hours a week.

31. **Problems in Geography:** A survey of historical geography, political geography, and the philosophical foundations of modern geographical thought. (Prerequisites: Any two of Geography 10, 19, 21, 24).
3 hours a week.

34. **Geography of Canada:** The natural wealth of Canada and its conservation. (Prerequisites: Geography 10, 19, or equivalent).
3 hours a week.

Honours Courses

219. **Geography of World Resources and Industries:** Trade routes and centres; the world's physical resources; their nature, utilization, and transportation.
3 hours a week.

324. **World Regional Geography:** A systematic survey of the major natural and political regions of the world. (Prerequisites: Geography 10, 19, or equivalent).
3 hours a week.

334. **Geography of Canada:** The natural wealth of Canada and its conservation. The geographic bases of human occupance in Canada; conservation of natural resources. (Prerequisites: Geography 10, 19, or equivalent).
3 hours a week.

GEOLOGY

Lecturer: Rev. A. J. Weiler, C.S.B., B.A.

10. **Introductory Course in Geology:** Minerals and rocks; geological processes and their results; structure of the earth; practical application of geology; fossils and their use; an outline of the earth's history.
2 lectures and 2 laboratory hours a week. Field trips.

10e. Contents same as Geology 10.
2 lectures a week, both semesters; 2 laboratory hours a week, one semester.

GERMAN

(See p. 133.)

GREEK

(See p. 112.)

HISTORY

Officers of Instruction: Professor: Rev. D. J. Mulvihill, C.S.B., Ph.D. (Department Head); Associate Professor: Most Rev. C. L. Nelligan, D.D., B.A.; Rev. J. P. O'Meara, C.S.B., Ph.D.; Assistant Professors: Rev. F. J. Boland, C.S.B., Ph.D.; Rev. J. J. McCormick, C.Ss.R., M.A.; C. M. J. F. Swan, Ph.D.; Lecturer: Rev. R. S. Rayson, M.A., S.T.B., D.D.

For major in general course, see p. 63; for Honours History (Economics Option), see p. 74; for Honours English and History, p. 69; for Honours History (Philosophy Option), p. 75; for graduate courses, p. 191.

4. **History of the Americas:** A study of the rise and growth of the various American nations and their relations with one another, against their respective geographical, economic and cultural backgrounds. 3 hours a week.

10. **Mediaeval, Renaissance and Reformation History.**
3 hours a week.

11. **The Development of Christian Civilization:** A survey of the development of Christian civilization and thought from the time of Christ to the present, with special attention to the role of the Church. 2 hours a week.

23a. **The Development of Self-Government in the British Empire-Commonwealth.**
3 hours a week, one semester (half course).

24. **History of England:** A lecture and reading course on the political and cultural development of England from the Roman Conquest to 1837.
2 hours a week.

26. **Western Civilization and Thought:** From the fall of the Roman Empire to the end of World War II. This is a survey course for those not majoring in history; because of similarity of content, students who have credit for History 10, 11 or 36 may not take this subject for credit.
2 hours a week.

27. **Ancient Civilizations:** The Near East, Greece and Rome.
3 hours a week, lectures and seminars.

31. **History of Canada:** A survey from the beginning of the French Regime to the present.
3 hours a week.

34. **History of the United States.** 2 hours a week.

35. **History of Latin America:** The colonial and republican periods; the cultural, institutional and political development of the Latin countries of the western hemisphere.
3 hours a week.

36. **Modern History (1555-1933).** 3 hours a week.

37. **History of Russia: Origins to the Soviet Regime.**
3 hours a week.

38. **Diplomatic History of the United States:** The diplomatic aspect of the War for Independence; American international relations after 1789; occupation of the West; international aspects of the Civil War; American imperialism; Spanish-American War; First World War; League of Nations; Caribbean and Pacific problems since 1920; foreign policy since 1933; Second World War; post-war problems and the United Nations. 2 lectures, 1 seminar a week.

39. **Intellectual History of Russia.** 3 hours a week.

Honours Courses

236. **Modern History:** 1555-1933.
3 hours a week, lectures and seminars.

257. **Ancient Civilizations:** Prehistoric culture from the Paleolithic Age to the dawn of civilization. The political, social, economic and cultural history of the Near East and Egypt. The origin, development, achievement and decay of the Greek city-state from the time of Homer to Alexander the Great, with particular emphasis on Greek culture and Greek contributions to modern civilization. The political and social development of the Roman state from its origins to the Augustan age with particular attention paid to the collapse of the Republic and the Principate. 3 hours a week.

324. **History of England:** The political and cultural development of England from the Roman Conquest to 1837.
2 hours a week.

331. **History of Canada:** A survey from the beginning of the French Regime to the present.
3 lectures and a seminar a week.

333a. **The Development of Self-Government in the British Empire-Commonwealth.**
3 hours a week, lectures and seminars; one semester (half course).

335. **History of Latin America:** The colonial and republican periods; the cultural, institutional and political development of the Latin countries of the western hemisphere.
3 hours a week.

337. **History of Russia:** Origins to the Soviet Regime. (i) The political and economic growth, cultural and religious factors, the growth of foreign relations and the expansion in Asia until the 19th century. (ii) The history of Russia from the beginning of the 19th century to the establishment and consolidation of the Soviet regime, with special emphasis on the development of the revolutionary movement in Russia. 3 hours a week.

354b. **History of Latin America.** (Prerequisite: History 236).
3 hours a week, lectures and seminars; one semester (half course).

356a. **International Relations and World Problems:** 1918-present. (Prerequisite: History 236).
3 hours a week, lectures and seminars; one semester (half course).

358. **Canada, Autonomous State, 1837-1957:** Evolution of Nationhood from acquisition of responsible government to the present. Miracle of political union (1844-1867); national policy; population growth and its problems; Laurier, Borden, King; Commonwealth and Nationhood; sectionalism and the Canadian nation; Liberal government and the external and internal crisis since 1930; autonomous state and its consequences; Canada in a two-power world; NATO.
3 hours a week (2 lectures, 1 seminar).

434. **History of the United States:** The colonial period, the revolution, making of the constitution, westward development, the slavery struggle, the Civil War, reconstruction and later political history to the present day; the character of federal and state governments.
3 hours a week, lectures and seminars.

439. **Intellectual History of Russia:** The Byzantine tradition; 18th and 19th century Russian thought; intellectual history of the Soviet era.
3 hours a week.

452. **History of European Society and Institutions:** In the first term Continental Europe to 1648 will be studied. In the second term the course deals with the social and constitutional history of England to 1660 and emphasizes the use of documents.
3 hours a week, lectures and seminars.

455. **British Political Parties:** The rise of the Tory, Whig, Conservative, Liberal, Irish Parliamentary, Unionist and Labour Parties.
3 hours a week, lectures and seminars.

461. **Development of Political Thought and Political Parties in Canada from 1837 to the Present:** Macdonald, Laurier, Borden, King; internal crises after 1930 and decline of Federal leadership; completion of Canadian autonomy with resultant world responsibilities; Canadian-American relations from Revolutionary period to the present with special emphasis on boundary-fisheries problems and post-War II economic, defence and cultural interests.
3 hours a week (2 lectures, 1 seminar).

HOME ECONOMICS

Officers of Instruction: Lecturers: Sr. Michael Mary, S.N.J.M., B.A.; Sr. Mary Romana, S.N.J.M., M.S.

For major in general course, see p. 63.

10. **Textiles and Clothing:** A course dealing with the structure and properties of textile fibers; identification of natural and synthetic fibers; the principles of costume design in relation to color, line and style suitable to the individual; the application of the fundamental principles of clothing construction.

2 lectures, 3 laboratory hours a week.

25a. **Home Management:** A study of homemaking with special emphasis on the budgeting of time, energy and income; fundamental principles and management involved in the use, care and maintenance of household equipment.

3 hours a week, one semester (half course).

25b. **Family Relations:** A study of the position of woman in the home; a positive program for family problems and their solution in the light of Christian teaching.

3 hours a week, one semester (half course).

27. **Foods:** An elementary study of the selection and preparation of foods; standards for food preparation; practical experience in menu making, food costs, nutritive evaluation, meal preparation, time management and table service for formal and informal meals in the home.

2 lectures, 2 laboratory hours a week.

31. **Nutrition:** Study of the nutritional requirements of the body at different age levels with particular emphasis on their importance to health and prevention of disease; study of the present-day requirements of children, developing satisfactory food habits, causes and recognition of deficiency diseases. Seminar required (see below). (Prerequisite: Home Economics 27, Biology 1 or equivalent).

3 lectures a week.

37. **Experimental Cookery:** A study of the effects of varying procedures, ingredients, and equipment on various food products with emphasis on the methods which will best conserve nutriment, flavor and appearance. Seminar required (see below). (Prerequisite: Home Economics 27).

2 lectures, 3 laboratory hours a week.

Seminar: A study of current findings and problems, assigned readings, and discussion of current literature; field trips. Seminar is required of all students taking Home Economics 31 and 37.

ITALIAN

(See p. 134.)

LATIN

(See p. 112.)

LIBRARY SCIENCE

1. **Use of Books and Libraries:** A general course designed to make all students familiar with the classification of the library; to enable them to read a book technically; to use the dictionary catalog and to interpret catalog cards; to acquaint them with the basic reference tools which they will need to use during their college years. Seven lectures. (Required of all students entering the University in Preliminary or First Year).

MATHEMATICS

Officers of Instruction: Associate Professor: Rev. D. T. Faught, C.S.B., M.A. (Department Head); S. Green, Ph.D.; Assistant Professors: L. L. Campbell, M.S., Ph.D.; H. A. Eliopoulos, M.Sc., Ph.D.; Rev. W. F. Nigh, C.S.B., M.A.; S. Verma, Ph.D.; E. Zakon, Dr.jur.; Lecturer: G. Klambauer, M.A.; Instructor: W. R. Gee, B.Sc.

For major in general course, see p. 83; for Honours Mathematics, p. 91; for graduate courses, p. 200.

1y. **Algebra:** Functions and their graphs, quadratic equations, ratio and proportion, variation, progressions, interest and annuities, permutations and combinations, binomial theorem, mathematical induction, determinants, complex numbers, sequences.

2 hours a week (half course).

2y. **Analytic Geometry:** The point, straight line, circle, parabola, ellipse, hyperbola, translation and rotation of axes, general second-degree equations, polar coordinates, parametric equations, determinants of the third order.

2 hours a week (half course).

3y. **Plane Trigonometry:** Fundamental formulae, graphical representation of trigonometric functions, solution of trigonometric equations, solution of triangles, logarithms, complex numbers, De Moivre's theorem.

2 hours a week (half course).

4a. **Algebra and Plane Trigonometry:** Graphical representation of algebraic functions, solution of linear and quadratic equations, the progressions, ratio and proportion, the mathematics of investment, permutations and combinations, the binomial theorem, selected topics in trigonometry.

3 hours a week, one semester (half course).

4b. **Analytic Geometry and Plane Trigonometry:** A study of the point, straight line, circle, parabola, ellipse, and hyperbola; selected topics in Trigonometry.

3 hours a week, one semester (half course).

11. **Intermediate Algebra, Geometry and Trigonometry:** The conics, translation and rotation of axes, graphs of algebraic and transcendental functions, computations and errors, infinite series, complex numbers, determinants, matrices, mathematics of investment, vectors, analytic geometry of three dimensions, solid geometry and mensuration, spherical trigonometry. (Prerequisite: Mathematics 1y, 2y, 3y, or Grade XIII Algebra, Geometry, Trigonometry).

2 lectures, 2 laboratory hours a week.

13b. **Mathematics of Investment:** Interest and discount, short-term installment buying, annuities-certain, bonds and bond prices, capitalized cost, life annuities, life insurance.
3 hours a week, one semester (half course).

15. **Differential and Integral Calculus:** Functions and limits, the derivative, differentiation of algebraic and transcendental functions, definite and indefinite integrals, partial differentiation, applications to problems involving lengths, areas, volumes, and problems in mechanics and physics. (Prerequisite: Mathematics 1y, 2y, 3y).
3 hours a week.

21. **Fundamental Concepts of Mathematics:** Sources and evaluation of mathematical ideas and methods, sets, algebraic structures, number systems, relations to logic, axiomatic method, the infinite, present-day situation in the foundations.
3 hours a week.

22. **Probability and Statistics:** Mutually exclusive events, total probability, conditional probability, compound probability, Bernouillian trials, basic concepts of elementary statistics, moments, dispersion, skewness, frequency distribution, expected values. (Prerequisite: Mathematics 15).
3 hours a week.

25. **Methods of Applied Mathematics I:** Improper integrals, infinite series, multiple integration, line and surface integrals, differential equations of first order, higher-order differential equations with constant coefficients, series solutions of differential equations, vector analysis including properties of the gradient, divergence and curl. (Prerequisite: Mathematics 15; prerequisite or corequisite: Mathematics 11).
4 lectures, 2 laboratory hours a week.

25x. **Methods of Applied Mathematics I:** Same as Mathematics 25, but without laboratory periods.
4 hours a week.

27. **Methods of Applied Mathematics II:** Introduction to the theory of functions of a complex variable, Laplace transformation, probability and statistics. (Prerequisite or corequisite: Mathematics 25).
2 lectures, 2 laboratory hours a week.

27x. **Methods of Applied Mathematics II:** Same as Mathematics 27 but without laboratory periods.
2 hours a week.

30a. **Vector analysis:** Applications to geometry, vector calculus, differential geometry of curves, introduction to differential geometry of surfaces, differential operators.
3 hours a week, one semester (half course).

30b. **Theoretical Mechanics:** Kinetics, dynamics of a particle, dynamics of systems, least action principle, Lagrange's equations, introduction to electromagnetic theory. (Prerequisite: Mathematics 11 and 15).
3 hours a week, one semester (half course).

32a. **Solid Analytical Geometry:** Elements of solid analytical geometry including lines and planes, quadrics, ruled surfaces, transformation to principal axes, and related topics. (Corequisite: Mathematics 25).
3 hours a week, one semester (half course).

32b. **Modern Geometry:** Logical systems, axiomatic geometry, Menelaus' and Ceva's theorems, harmonic elements, projective geometry, non-Euclidean geometries. (Corequisite: Mathematics 25).
3 hours a week, one semester (half course).

33. **Advanced Calculus and Applied Mathematics:** Sequences, limits, functions, numerical analysis, Fourier series, partial differential equations. (Prerequisite: Mathematics 25).
3 lectures, 2 laboratory hours a week.

35. **Methods of Applied Mathematics III:** Fourier series, partial differential equations, numerical analysis. (Prerequisite: Mathematics 25).
2 lectures, 2 laboratory hours a week.

35x. **Methods of Applied Mathematics III:** Same as Mathematics 35 but without laboratory periods.
2 hours a week.

37. **Modern Algebra:** Integers, rational numbers and fields, real numbers, polynomials, complex numbers, group theory, vectors and vector spaces, matrices, linear groups, rank and determinants, algebra of classes, transfinite arithmetic, rings and ideals, number fields, Galois theory.
3 hours a week.

39b. **Theory of Numbers:** An introductory course. Properties of integers, divisibility, congruences, Fermat's and Wilson's theorems, primitive roots, quadratic residue, diophantine equations.
3 hours a week, one semester (half course).

Honours Courses

227. **Introduction to Modern Algebra:** Algebraic structures, matrix calculus, vector spaces, linear systems, linear and quadratic forms, eigenvalue problems, linear groups and applications.

3 hours a week.

229. **Analytic Geometry:** Vectors, conic sections, diameters, asymptotes, principal directions, polar coordinates, parametric equations, envelopes, poles, polars, planes, lines and surfaces, three-dimensional space, quadric surfaces.

2 hours a week.

254. **Intermediate and Advanced Calculus:** Approximate integration, improper integrals, indeterminate forms, infinite series, partial derivatives, multiple integrals, line integrals, number systems, Dedekind cuts, sequences, functions, limits, continuity, Fourier series.

3 lectures, 1 laboratory hour a week.

300. **Principles of Analysis:** Real number system, fundamentals of set theory, structure of metric spaces, introduction to normed linear spaces, Stone-Weierstrass approximation theorem, Stieltjes integral, topics in theory of series.

3 hours a week.

331. **Probability and Statistics:** Probability, statistical methods, frequency distribution of one variable, correlation and regression, testing goodness of fit, small sample distribution, statistical design in experiments, non-parametric methods.

3 hours a week.

332. **Modern Geometry:** Logical systems, theorem of Menelaus, Ceva and Desargues, cross ratio and coordinate and projective geometry, non-Euclidean and metric projective geometries.

3 hours a week.

341a. **Vector Analysis and Differential Geometry:** Vector operations in linear geometry, metric vector operations, infinitesimal vector operations, theory of curves and surfaces, Cartan calculus.

3 hours a week, one semester (half course).

341b. **Theoretical Mechanics:** Elementary principles, mechanics of a particle and system of particles, variational principles, Lagrange equations, two-body problem, kinematics of rigid body motion.

3 hours a week, one semester (half course).

354. **Differential Equations:** Elementary methods of solution of ordinary differential equations of the first order and of differential equations of higher order with constant coefficients, existence theorems, theory of linear equations, oscillation theorems, eigenfunctions, solution in infinite series, solution of special second-order partial differential equations, introduction to the use of the Laplace transformation.

3 hours a week.

400. **General Topology:** Topological spaces, Moore-Smith convergence, homeomorphism, product and quotient spaces, topological groups, embedding and metrization, compact spaces, uniform spaces, function spaces. (Prerequisite: Mathematics 300).

2 hours a week.

429b. **Synthetic and Analytic Projective Geometry:** Principles of duality, correlation of geometric figures, harmonic ranges, harmonic pencils, Pascal's and Brianchon's theorems, poles and polars, analytic foundations of projective geometry, perspectives, affine and Euclidean geometries from the projective point of view, the classical non-Euclidean geometries, the geometric continuum.

3 hours a week, one semester (half course).

437. **Modern Algebra:** Groups, rings, fields, the integers, rational numbers, polynomials, real numbers, complex numbers, group theory, vector spaces, matrices, linear groups, determinants, canonical forms, set theory, Galois theory.

3 hours a week.

438a. **Functions of a Complex Variable:** Fundamental definitions, elementary functions, Cauchy's integral formula, residues and poles, conformal mapping, applications to the evaluation of real integrals and to the solution of some partial differential equations of physics. (Prerequisite: Mathematics 354).

2 hours a week, one semester (half course).

444. **Theory of Functions of a Real Variable:** Measure and integration, point-set theory, Lebesque-Stieltjes measures, measurable functions, integration, convergence theorems, Hilbert and Banach spaces.

3 hours a week.

448. **Theory of Functions of a Complex Variable:** Point sets, analytic functions, conformal mapping, integration, infinite series and applications, integral and meromorphic functions.

3 hours a week.

449a. **Modern Differential Geometry:** Differential manifolds, tensor fields, exterior differential calculus, spaces with affine connection, Riemannian spaces, introduction to generalized metric spaces.

3 hours a week, one semester (half course).

449b. **The Theory of Relativity:** Special theory of relativity, relativistic dynamics, electromagnetic fields, retarded and advanced potentials, Lorentz, Dirac and Feynman classical theories, general theory of relativity and introduction of unified field theories.

3 hours a week, one semester (half course).

450a. **Mechanics of Continuous Media:** Frictionless fluids, Eulerian equations of motion, vorticity, differential equations of sound propagation, strain and stress tensors, equations of equilibrium and motion for elastic media, viscosity.

3 hours a week, one semester (half course).

450b. **Electromagnetism:** Electrostatics, theory of potentials, dielectrics, steady electric currents, magnetism, quasistationary fields, Maxwell's equations, electromagnetic stress tensor and momentum. plane waves, radiating dipole.

3 hours a week, one semester (half course).

451. **Advanced Dynamics and Quantum Theory:** (i) The Hamilton equations of motion, canonical transformations, Hamilton-Jacobi theory, the Kepler problem, the Bohr atom, Sommerfeld theory, small oscillations. (ii) Quantum theory: historical introduction; dynamical variables and observables, quantum conditions, equations of motion, elementary applications, perturbation theory, systems of many particles, theory of radiation, applications to atoms and nuclei, relativistic theory of the electron, theory of positrons. (Prerequisite: Mathematics 341).

3 hours a week.

453. **Mathematical Methods in Physics:** Partial differential equations of mathematical physics, special functions, applications of complex variable, Fourier and Laplace transforms.

2 hours a week.

MODERN LANGUAGES

Officers of Instruction: Associate Professors: Rev. C. J. Drouillard, C.S.B., Ph.D. (Department Head); Most Rev. C. L. Nelligan, D.D.; A. A. Thibault, M.A., D.-es-lettres; Assistant Professors: Miss Lillian McCarthy, Ph.D.; Rev. J. M. C. O'Donoghue, C.S.B., M.A.; Sr. Pauline of Mary, S.N.J.M., M.A.; Lecturers: Rev. R. S. Pazik, C.S.B., M.A.; Rev. A. J. Weiler, C.S.B., B.A.; Mrs. E. Zakon, M.A.

For major in general course, see p. 63; for Honours English and French, p. 68; for Honours English and Spanish, p. 72; for Honours French and Spanish, p. 73; for Honours English and Philosophy (Language option), p. 71.

I. FRENCH

A. **Elementary:** Emphasis is placed on the acquisition of basic reading and writing skills and of aural comprehension. Laboratory work is required of all students.
3 hours a week.

2. **Intermediate:** This course is designed to teach the student accurate writing, rapid reading and exact comprehension. Training in the basic skills of aural comprehension and conversation will be given in the laboratory. (Prerequisite: French A or Grade XII French).
3 hours a week.

12. **The Modern French Theatre:** Specified periods of laboratory work. (Prerequisite: French 2 or Grade XIII French).
3 hours a week.

21. **Literature of the Eighteenth Century and Romanticism.**
3 hours a week.

22y. **Conversation, Phonetics:** Systematic oral practice for those students who wish to develop a fluency in speaking French.
2 hours a week (half course).

23y. **Advanced Composition.**
2 hours a week (half course).

27. **French Literature of the Renaissance and Classical Periods:** Study of representative literature of the sixteenth and seventeenth centuries: reading, lectures, discussion and reports.
3 hours a week.

31. **Realism to the present time.**
3 hours a week.

Honours Courses

260y. **Prose Composition.** 1 hour a week (half course).

261y. **Conversation, phonetics.**
1 lecture a week; laboratory hours to be arranged (half course).

270. **French Literature of the Renaissance and Classical Periods:** Study of representative literature of the 16th and 17th centuries; reading, lectures, discussions and reports.
3 hours a week.

375y. **Advanced Prose Composition.**
1 hour a week (half course).

376y. **Oral French.**
1 lecture a week; laboratory hours to be arranged (half course).

380. **The Literature of the 18th Century:** Lectures, reading, discussion, reports in French. (Prerequisite: French 27).
3 hours a week.

490. **The Literature of the 19th Century:** Pre-Romanticism, Romanticism, Naturalism and Symbolism in poetry, the novel and the drama. (Prerequisite: French 380). 3 hours a week.

495. **The Literature of the 20th Century:** Poetry, the Novel and Drama. 3 hours a week.

496y. **Advanced Oral French.**
1 lecture a week; laboratory hours to be arranged (half course).

II. GERMAN

A. **Elementary:** The work of Grade XII or its equivalent is covered. Laboratory periods required. 3 hours a week.

2. **Intermediate:** The work of Grade XIII or its equivalent is covered. Laboratory periods required. (Prerequisite: German A or Grade XII German). 3 hours a week.

12. **Advanced:** Readings from selected German authors, grammar, dictation, conversation, laboratory work. (Prerequisite: German 2 or Grade XIII German). 3 hours a week.

21. **Outline of Modern German Literature:** Survey of German literature from beginnings to Romanticism. 2 hours a week.

31. **German Literature from 1805 to the Present:** The emphasis will be on the actual reading of a maximum number of poems, short stories, novels and plays in their entirety. These works will be discussed as literature and as products of German culture.
3 hours a week.

III. ITALIAN

A. **Elementary:** Grammar, translation, dictation, oral practice. Laboratory work is required of all students.
3 hours a week.

2. **Intermediate:** Grammar, translation, composition, oral practice, laboratory work. (Prerequisite: Italian A).
3 hours a week.

IV. RUSSIAN

A. **Elementary:** Pronunciation, grammar, dictation, translation, oral practice. Laboratory work is required of all students.
3 hours a week.

2. **Intermediate:** Grammar, dictation, translation, composition, conversation. Laboratory work required. (Prerequisite: Russian A). 3 hours a week.

12. **Advanced:** Special problems of grammar, translation, conversation, composition. Laboratory work required. (Prerequisite: Russian 2).
3 hours a week.

V. SPANISH

A. **Elementary:** Grammar, translation, dictation, oral practice. Laboratory work is required of all students.
3 hours a week.

2. **Intermediate:** Grammar, translation, composition, oral practice, laboratory work. (Prerequisite: Spanish A or Grade XII Spanish). 3 hours a week.

4. **Elementary and Intermediate:** Grammar, translation, dictation, oral practice; laboratory work is required of all students. (This course is intended only for those who have a high proficiency in language and who intend to pursue the Honours course. Others may enter only with approval of the Department Head. Students entering this course from Grade XIII will be permitted to take the Honours courses on approval from their instructor, following the successful completion of Spanish 4).
5 hours a week.

12. **Advanced:** Grammar review, composition, translation, oral practice, laboratory work. (Prerequisite: Spanish 2 or 4 or Grade XIII Spanish).
3 hours a week.

21. **Spanish Literature:** Literature of Spain from its origins to 1700. 3 hours a week.

22y. **Conversation:** Systematic oral practice for developing fluency in speaking Spanish, laboratory work.
2 hours a week (half course).

23y. **Advanced Composition.**
2 hours a week (half course).

33. **Spanish Literature:** Literature of Spain from 1700 to present time.
3 hours a week.

34. **Hispanic Literature:** Literature of Mexico, Central and South America.
3 hours a week.

Honours Courses

221. **Spanish Literature:** Literature of Spain from its origins through the Middle Ages, the Renaissance down to the close of the Siglo de Oro. The Humanists. (Prerequisite: Spanish 12).
3 hours a week.

222y. **Conversation:** Systematic oral practice for developing fluency in speaking Spanish.
1 lecture a week, laboratory hours to be arranged (half course).

223y. **Advanced Composition.**
1 hour a week (half course).

333. **Mexican Literature:** Poetry of the Colonial Period; beginnings of the novel; the Independence; Novel of the Revolution; contemporary theatre.
2 hours a week.

334. **Spanish American Literature:** Modernism and Post-Modernism; the short story; Central and South America.
2 hours a week.

335y. **Oral Spanish:** Discussion of current events, oral delivery of prepared subjects.
1 hour a week (half course).

432. **Spanish Literature:** The 18th and 19th centuries; Neo-Classicism, Romanticism, the regional novel.
3 hours a week.

433. **Spanish Literature:** Generation of 1898 to post-Civil War and contemporary.
2 hours a week.

435y. **Oral Spanish:** Reports on current topics, composition and delivery of dialogue.
1 hour a week (half course).

MUSIC

Visiting Professor: Matteo Glinski; Instructor: Violet Webb Leach, L.C.M., C. of M., M.A.

1. **First Course:** Any two of the following three sections:

(1) (a) History: The Classic period commencing with the life of Bach and Handel, and including music and life and times of Haydn, Gluck, Mozart and Beethoven. (b) Form: A knowledge of the musical sentences, cadences and sonata form based on the work of Haydn, Mozart and Beethoven.

(2) Elementary Rudiments and Harmony: A knowledge of major and minor scales, intervals, embellishments, dominant seventh chords and their inversions, and the use of primary and secondary chords and cadences.

(3) Applied Music: Public performance, or examination.
3 hours a week.

11. **Second Course:** Any two of the following three sections:

(1) (a) History: A knowledge of the music and lives of the composers of the nineteenth century, including von Weber, Schubert, Schumann, Chopin, Liszt, Berlioz, Wagner, Brahms, and the Russians. (b) Form: Continuance of sonata form, the suites, rondo, fugue and dance forms, etc.

(2) Harmony: (a) adding three parts above a figured bass; (b) harmonizing a melody in four parts or adding a bass to a given melody using passing and auxiliary notes.

(3) Applied Music: Similar stipulations to the first year but of correspondingly more advanced character. (Prerequisite: Music 1 or equivalent).
3 hours a week.

NURSING

Officers of Instruction: Assistant Professor: Miss Florence M. Roach, R.R.C., B.S., Reg.N., R.R.L. (Department Head); Sessional Instructor: Mrs. T. Gray, Dipl.N.Ed.

For Nursing programs, see p. 94 ff.

30. **Nursing Administration:** Principles of organization and administration and their application in schools of nursing, hospital nursing services, health agencies; personnel administration; ward management. Administrative patterns in public health; planning and evaluating a community nursing program; office management, relationship with co-workers and other disciplines.

3 hours a week.

31. **Teaching in Schools of Nursing and Clinical Services:** Qualifications; methods; curriculum; planning course and lesson content; evaluation techniques.

3 hours a week.

32b. **Trends and Developments in Nursing:** A broad concept of what is involved in the practice of professional nursing; the professional nursing organizations; factors influencing past development as well as present and future trends; consideration of research study reports.

2 hours a week, one semester (half course).

33a. **Community Health Nursing:** Trends in public health practices necessary for the protection and promotion of individual health; community health facilities, their organization and function; the integration of social and health aspects in the basic nursing curriculum.

2 hours a week, one semester (half course).

34. **Principles and Practices of Community Health Nursing:** Philosophy, goals and function of community health nursing; integration of social and related public health principles to promote the physical and mental well being of the individual as a member of family and society, consideration of health needs in growth and development from birth to senescence, in terms of modern health concepts.

5 hours a week.

35. **Preventive Medicine and Health Supervision:** Trends in public health practices; organization, administration and legislation for health maintenance from the international to the community level; epidemiological, statistical and nutritional concepts; environmental sanitation and safety; health education and civil defence.

3 hours a week.

39b. **Occupational Health Services:** Historical, social and economic aspects of occupational health; preventive principles and methods in relation to the worker and his environment; management of occupational and non-occupational hazards and illnesses; analysis and evaluation of the professional responsibility of the occupational health nurse in health programs for employee groups.

2 hours a week, one semester (half course).

PHILOSOPHY

Officers of Instruction for University and Holy Redeemer Colleges: Professor: Rev. E. C. Garvey, C.S.B., Ph.D. (Department Head); Assistant Professors: Rev. A. E. Alexander, C.Ss.R., Ph.L.; Charles Fay, Ph.D.; P. F. Flood, M.A.; Rev. R. D. Powers, C.Ss.R., M.A.; Rev. P. J. M. Swan, C.S.B., Ph.D.; Lecturers: Rev. J. Daley, C.S.B., M.A., S.T.B.; J. N. Deck, M.A.; J. M. Graham, M.A.; Rev. D. G. Macdonald, C.S.B., M.A.; Special Lecturer: Rev. N. J. Ruth, C.S.B., M.A. **For Canterbury College:** Professor: Rev. F. T. Kingston, M.A., B.D., D.Phil.

For major in general course, see p. 63; for Honours English and Philosophy (Philosophy option), see p. 70; for Honours English and Philosophy (Language option), p. 71; for Honours History (Philosophy option), p. 75; for Honours Philosophy (Science options), p. 76; for Honours Philosophy and Psychology, p. 77; for graduate courses, p. 192.

15. **Introduction to Philosophy:** Philosophy as seen through its history and current applications; the development and resolution of selected philosophical problems in the Western tradition with readings from ancient, modern, and contemporary philosophers.
3 hours a week.

15a. **Introduction to Philosophy:** Philosophy as seen through its history and current applications; the development and resolution of selected philosophical problems in the Western tradition.
3 hours a week, one semester (half course).

Philosophy 15 or 15a is prerequisite for all other Philosophy courses.

21a. **Logic:** The logical operations, simple apprehension, judgment and reasoning; their use in the sciences and in infra-scientific cognition. The epistemological analysis of logic.
3 hours a week, one semester (half course).

22. **Ethics:** The principles of moral philosophy.
2 hours a week.

25a. **Philosophy of Nature and of the Sciences:** Philosophic analysis of change; causality and finality in nature; the philosophy of man; speculative and practical intellect; the degrees of knowledge; the epistemology of art and of the physical and social sciences.
3 hours a week, one semester (half course).

25b. **Social Ethics:** The relationship between philosophy and the social sciences; the nature and function of society; freedom, authority, government; the family and the state.

3 hours a week, one semester (half course).

26b. **Philosophy of Education:** The nature of the Philosophy of Education; the metaphysical, epistemological and psychological bases of education. The levels of education. The art of education; problems in contemporary education.

3 hours a week, one semester (half course).

27. **History of Mediaeval Philosophy:** The Greek origins, the development, flowering and decline of mediaeval thought.

3 hours a week.

28a. **Philosophical Psychology:** Philosophical analysis of life; the soul and its powers; external and internal senses; the sense appetites; intellect and will; the nature of man.

3 hours a week, one semester (half course).

31. **Modern and Contemporary Philosophy:** A study of modern philosophers from Francis Bacon to the present.

3 hours a week.

34. **Metaphysics:** The philosophy of being. The concept and the intuition of being; essence and existence, substance and accident; the transcendental attributes of being. The metaphysics of knowledge, epistemology. The existence of God, the divine attributes.

3 hours a week.

35a. **Logical Positivism and Semantics:** The historical and doctrinal study of logical positivism and semantics.

3 hours a week, one semester (half course).

35b. **Symbolic Logic:** A brief introduction to symbolic logic.

3 hours a week, one semester (half course).

36a. **Existentialism:** Existentialism from Kierkegaard to Sartre.

2 hours a week, first semester (half course).

36b. **Pragmatism:** American pragmatism from Peirce to Dewey.

2 hours a week, second semester (half course).

39a. **History of Political Philosophy:** Ancient, mediaeval and modern political philosophy.

3 hours a week, one semester (half course).

Honours Courses

221a. **Logic:** The logical operations, simple apprehension, judgment and reasoning; their uses in the sciences and in infra-scientific cognition. Comparison of Aristotelian and modern logics. The epistemological analysis of logic.

3 hours a week, one semester (half course).

222. **Ethics:** The relationships among moral philosophy, prudence and moral theology. The principles of moral philosophy.

2 hours a week.

226b. **Philosophy of Education:** The nature of the Philosophy of Education; the metaphysical, epistemological and psychological bases of education. The levels of education. The art of education; problems in contemporary education.

3 hours a week, one semester (half course).

228a. **Philosophical Psychology:** The nature and method of philosophical psychology. A philosophical analysis of life; the soul and its powers; external and internal senses; the sense appetites; intellect, ideogenesis and judgment; will; the psychology of habits; the nature of man.

3 hours a week, one semester (half course).

327. **History of Mediaeval Philosophy:** The Greek origins, the development, flowering and decline of mediaeval thought. Readings in St. Augustine, Boethius, St. Anselm, Abelard, Maimonides, St. Bonaventure, St. Thomas, Scotus and William of Occam.

3 hours a week.

334. **Metaphysics:** The philosophy of being. The concept and the intuition of being; act and potency; essence and existence; substance and accident; the transcendental attributes of being. The degrees of abstraction, the metaphysics of knowledge, epistemology. The existence of God and the divine attributes.

3 hours a week.

336a. **Existentialism:** Existentialism from Kierkegaard to Sartre; readings and seminars.

2 hours a week, first semester (half course).

336b. **Pragmatism:** American pragmatism from Peirce to Dewey; readings and seminars.

2 hours a week, second semester (half course).

350. **Philosophical Texts:** An examination of specified source material in Greek, mediaeval, modern and contemporary philosophy.

2 lectures, 1 seminar hour a week.

423b. **Philosophy of Art:** History of the philosophy of art and the metaphysics of the beautiful. Comparison of the virtue of art with speculative knowledge and with prudence. The liberal and the servile arts; the useful and the fine arts; the philosophical analysis of the poetic; the philosophy of art and literary criticism.

3 hours a week, first semester (half course).

431. **Modern and Contemporary Philosophy:** A study of modern philosophers from Francis Bacon to the present.

2 lectures, 1 seminar a week.

435a. **Logical Positivism and Semantics:** The historical and doctrinal study of logical positivism and semantics.

3 hours a week, one semester (half course).

435b. **Symbolic Logic:** A brief introduction to symbolic logic.

3 hours a week, one semester (half course).

439a. **History of Political Philosophy:** Ancient, mediaeval and modern political thought. Readings in Plato, Aristotle, St. Augustine, St. Thomas, Macchiavelli, Hobbes, Locke, Rousseau, Bentham, Mill, Hegel and Marx.

3 hours a week, one semester (half course).

450. **History of Ancient Western Philosophy:** A study of ancient philosophy from the Ionians to the Neo-Platonists. Readings in original and secondary source materials.

2 lectures, one seminar a week.

PHYSICS

Officers of Instruction: Associate Professor: L. Krause, B.Sc., M.A., Ph.D., A.Inst.P. (Chairman); Assistant Professors: J. Huschilt, M.A.; R. E. MacDonald, M.A., Ph.D.; D. Rankin, M.A.; Lecturers: E. E. Habib, B.Sc.; R. H. Koenig, M.Sc.; Instructor: I. H. Brockman, B.E.; Demonstrator: J. Csendes, D.Phil., D.Rer.Pol.

For General course with major in Physics, see p. 83; for Honours Chemistry and Physics, p. 89; for Honours Mathematics and Physics, p. 93; for graduate courses, p. 201.

1a. **Basic Physics:** The basic principles of general physics, including statics and dynamics. (Prerequisite: Grade XII Physics).
3 lectures, 3 laboratory hours a week, one semester (half course).

10. **Mechanics, Wave Motion and Heat:** Statics and dynamics of a rigid body, properties of solids and liquids, wave phenomena, fundamental concepts in heat, kinetic theory of gases, the first and second laws of thermodynamics. (Prerequisite: Grade XIII Physics or equivalent; corequisite: Mathematics 15).
3 lectures, 3 laboratory hours a week.

12. **Mechanics, Heat and Sound:** The content is similar to Physics 10, but extends for one term only.
4 lectures, 3 laboratory hours a week, one semester.

13. **General Physics:** Mechanics, properties of matter, heat and sound, light, magnetism, electricity and modern Physics. Emphasis is placed on an understanding of fundamental principles and their applications with frequent reference to Biology and Medicine. (Prerequisite: Physics 1a or Grade XIII Physics).
3 lectures, 3 laboratory hours a week.

15. **Optics, Electricity and Magnetism:** Nature and propagation of light, reflection and refraction at plane and spherical surfaces, thin lenses and their aberrations, optical instruments, polarization, interference and diffraction. Fields of stationary and moving charges, Ohm's law, Kirchhoff's laws, induced electromotive force, elementary A.C. theory, instruments. (Prerequisite: Grade XIII Physics or equivalent: co-requisite: Mathematics 15).
4 lectures, 3 laboratory hours a week, one semester.

22. **Light:** Elements of geometrical and physical optics. (Corequisite: Mathematics 25x or equivalent).
2 lectures, 3 laboratory hours a week.

23. **Electricity and Magnetism:** Fields of stationary and moving charges, Ohm's law, Kirchhoff's laws, induced electromotive force, elementary A.C. theory, instruments. (Corequisite: Mathematics 25x or equivalent).

2 lectures, 3 laboratory hours a week.

26. **Optics, Electricity and Magnetism:** An elementary treatment of geometrical optics, physical optics, electrostatics, D.C. and A.C. circuit theory and magnetism. (Prerequisites: Physics 10 and Mathematics 15, or equivalent).

3 lectures, 3 laboratory hours a week.

27. **Introduction to Thermodynamics:** Temperature scales, thermodynamic systems, heat transfer, first and second laws, equations of state, Carnot cycle, entropy and Kelvin temperature scale, thermodynamic functions, applications, and kinetic theory. (Prerequisite: Physics 12. Corequisite: Mathematics 25x).

2 lectures a week, 3 laboratory hours every other week.

31. **Thermodynamics:** A course at the intermediate level. (Prerequisite: Physics 10, Mathematics 25x, or equivalent).

2 lectures, 3 laboratory hours a week.

34. **Electronics.** (Prerequisites: Physics 26 and Mathematics 25x or equivalent).

2 lectures, 3 laboratory hours a week.

36. **Modern Physics:** A review of the properties of electrons, atoms, and nuclei. An introduction to statistical mechanics and the properties of solids. (Prerequisites: Mathematics 25x and Physics 26 or equivalent).

2 lectures, 3 laboratory hours a week.

36x. **Modern Physics:** Content the same as for Physics 36, but without laboratory periods. (Prerequisites: Mathematics 25x or equivalent; Physics 15 or equivalent).

2 lectures a week.

46. **Contemporary Physics and the Universe:** An outline is given of the aims, methods and conclusions of the physicist, with special reference to the recent theories about the behaviour of matter on the atomic and sub-atomic as well as on the cosmic scale. The course is designed for students in their final year of a B.A. course and for graduates. Prerequisites: Grade XIII Mathematics or equivalent and consent of the instructor.

2 lectures a week.

Honours Courses

222. **Optics:** Reflection and refraction of light at plane and curved surfaces, properties of mirrors, prisms and lenses, optical instruments. Interference, diffraction and polarization of light. Introduction to Maxwell's electromagnetic field equations. (Corequisite: Mathematics 25x or equivalent).
2 lectures, 3 laboratory hours a week.

223. **Electricity and Magnetism:** Theory of the electric field and potential with applications to the properties of dielectrics. D.C. and A.C. theory, circuits and instruments. Magnetic phenomena. Introduction to Maxwell's electromagnetic field equations. (Corequisite: Mathematics 25x or equivalent).
2 lectures, 3 laboratory hours a week.

331. **Thermodynamics and Statistical Mechanics:** The nature of heat, the first, second and third laws of thermodynamics, equations of state, Maxwell's equations and applications of thermodynamics to the properties of matter. The statistical interpretation of thermodynamics, the perfect gas, elementary theory of transport processes, Boltzmann, Fermi and Bose distributions. (Prerequisite: Physics 10 and Mathematics 25x or equivalent).
2 lectures a week.

334. **Electronics:** Thermionic emission and impurity conduction in semiconductors, the properties of vacuum tubes and transistors, rectifiers, amplifiers and oscillators, the general theory of feedback systems. Transmission lines, special circuits, including wide band amplifiers, trigger circuits, multivibrators, discriminators, etc. (Prerequisites: Physics 223 and Mathematics 25x or equivalent).
2 lectures a week.

336. **Modern Physics:** A selection of topics will be presented, including the atomic properties of matter, the conduction of electricity through gases, the quantum theory, atomic and nuclear structure, the special theory of relativity.
2 lectures a week.

350. **Theoretical Physics I:** Analytical mechanics of particles, systems of particles and rigid bodies. Introduction to mechanics of continuous media. Generalized coordinates, Lagrangian and Hamiltonian methods for conservative systems. The special theory of relativity.
3 lectures a week.

370. **Junior Physics Laboratory:** May be taken in whole or in part by students attending Physics 331, 334, or 336. (Physics 370/1 indicates one-third of the laboratory work, or 2 hours; Physics 370/2 indicates two-thirds, or 4 hours).
6 laboratory hours a week.

442a. **Crystallography:** A survey of structural properties of crystals, with special references to some of the more common types of lattices. Correlation of lattice structure with physical and chemical properties.
2 lectures a week, one semester (half course).

442b. **X-Rays and Spectroscopy:** The application of X-ray and optical methods to the determination of the composition and structure of substances. X-ray and spectroscopic instrumentation.
2 lectures a week, one semester (half course).

450. **Theoretical Physics II.** The classical theory of fields with special reference to: electromagnetic waves in dielectrics and conductors, Herz electric and magnetic vectors, multipole fields, Lenard-Wiechert potentials, accelerated charges, Maxwell's electromagnetic stress tensor, relativity.
3 lectures a week.

451. **Mathematical Methods in Physics:** Partial differential equations of mathematical physics, special functions, applications of complex variable, to Fourier and Laplace transforms.
2 hours a week.

452. **Physical Optics:** A treatment of interference, diffraction, polarization and scattering of light is presented at an advanced undergraduate level. The theory of atomic spectra is also discussed.
2 lectures a week.

466a. **Solid State Physics:** General properties of solids, electrical and thermal conductivity, specific heats and lattice vibrations, semiconductors.
2 lectures a week; 1st semester (half course).

466b. **Nuclear Physics:** The interaction of radiation with matter. Radiation detectors. Nuclear disintegration processes including alpha and beta decay, radiative transitions and fission. Nuclear reactions and nuclear models.
2 lectures a week; 2nd semester (half course).

470. **Senior Physics Laboratory:** May be taken in whole or in part by students attending Physics courses bearing numbers above 400. (Physics 470/1 indicates one-third of the laboratory work, or 3 hours; Physics 470/2 indicates two-thirds, or 6 hours).
9 laboratory hours a week.

POLITICAL SCIENCE

(See p. 116.)

PSYCHOLOGY

Officers of Instruction: Professor: Brother R. Philip, F.S.C., Ph. D., (Department Head); Associate Professor: Rev. J. A. Malone, C.S.B., Ph.D., Rev. M. A. Record, C.S.B., M.A.; Assistant Professor: Rev. R. C. Fehr, C.S.B., Ph.D.; W. R. Mann, M.A.; A. A. Smith, Ph.D.; Lecturers: Rev. T. J. McGouey, C.S.B., B.A.; Visiting Professor: Sr. Marian Dolores, S.N.J.M., Ph.D.

For major in general course, see p. 63; for Honours Psychology, p. 78; for Honours Philosophy and Psychology, p. 77; for graduate courses, p. 192.

15. **Introduction to Psychology:** A general orientation to Psychology from the scientific viewpoint.
3 hours a week.

Psychology 15 is a prerequisite for all other courses in Psychology, except Psychology 21 and 35a.

21. **Psychology of Adjustment:** This course is designed to present the student with an orientation to the place of psychology in the life of the individual, of the family and of society. Emphasis is placed upon principles of mental hygiene, the parent-child interaction, and interpersonal relationships.
2 hours a week.

22. **Child and Adolescent Psychology:** The growth and development of the child and the adolescent.
3 hours a week.

26a. **Educational Psychology:** Growth and development; learning, problem solving, imagination, individual differences, motivation, personality and mental hygiene of school children. (Philosophy 26b also recommended).
3 hours a week, one semester (half course).

27. **Psychological Tests and Measurements:** Principles of construction and use of standardized tests. Emphasis is placed upon the interpretation and critical evaluation of tests.
3 hours a week.

28. **Statistical Methods in Psychology:** Basic principles and methods in the application of statistics to psychological problems.
3 hours a week.

29. **Personality:** A study of personality organization, development and assessment. (Prerequisites: Psychology 28, 22 or 31).
3 hours a week.

30. **Experimental Psychology:** Introduction to laboratory methods and interpretation of results. (Prerequisite: Psychology 28).
2 lectures, 2 laboratory hours a week.

31. **Abnormal Psychology:** Concepts of and criteria of abnormality, mental deficiency, neuroses, psychoses and psychopathy. Discussion of the main theories of abnormality.
3 hours a week.

33a. **Applied:** The application of psychological principles to problems in industry and in other fields of human activity.
3 hours a week, one semester (half course).

33b. **Physiological:** A study of the nervous systems in their relation to psychological functions. The endocrine glands and their effect on man's development and conduct.
3 hours a week, one semester (half course).

34. **Social Psychology:** A study of man as a psychological unit of society. Language, learning, leadership, propaganda, competition, culture, conflict, etc., are studied as areas of social interaction.
3 hours a week.

35a. **Human Engineering:** An introduction to the use of psychological principles required in the design of man-machine systems. The purpose of the course is to acquaint the student with the kinds of "human design parameters" needed, and with the sources of pertinent data.
3 hours a week, one semester (half course).

Honours Courses

222. **Child and Adolescent Psychology:** The growth and development of the child and the adolescent. Special reading in theory and research of development including works of Gesell, Piaget, Freud, Montessori. Six hours observation and analysis of psychological testing of children.

226a. **Educational Psychology:** Growth and development; learning, problem solving, imagination, individual differences, motivation, personality and mental hygiene of school children.
3 hours a week, one semester (half course).

228. **Statistical Methods:** Principles and methods relating to psychology and education; tests of significance.
3 hours a week.

233a. **Applied Psychology:** The application of psychological principles to problems in industry and in other fields of human activity.
3 hours a week, one semester (half course).

233b. **Physiological Psychology:** A detailed study of the nervous systems in their relation to psychological functions. Recent findings of the effect of the endocrine glands on behaviour. An evaluation of drug therapy in the treatment of mental illness.
3 hours a week, one semester (half course).

327. **Psychological Tests and Measurements:** Theoretical bases of test construction; study of tests used in measuring intelligence and personality; practice in the administration and evaluation of tests.
3 hours a week.

329. **Personality:** A study of the theories of trait organization and the development and assessment of personality, with emphasis on individual differences. Ideas, values, attitudes and motives are considered. A special experimental study of trait relationship is undertaken by each student.
3 hours a week.

330. **Experimental Psychology:** Introduction to laboratory methods and interpretation of results. Principles of experimental design. The carrying out of a short original project.
2 lectures, 2 laboratory hours a week.

331. **Abnormal Psychology:** Concepts of and criteria of the normal and abnormal. A consideration of the organic and psychological sources of mental illness with special emphasis on the etiology, symptoms and dynamics of neuroses, psychoses and psychopathies.
3 hours a week.

334. **Social Psychology:** A study of man as a psychological unit of society. Language, learning, leadership, propaganda, competition, culture, conflict, etc., are studied as areas of social interaction. Honours students will be required to carry out a social study project in addition to their regular assignments.
3 hours a week.

450. **Projective Techniques:** An introductory course in Rorschach, Thematic Apperception Test, and the House-Tree-Person test. Stress is placed on the Rorschach.
3 hours a week.

451. **Advanced Statistics:** Tests of significance, non-parametric tests and analysis of variance.
3 hours a week.

452. **Emotions:** A study of the physiological basis of emotion and the more recent investigations in this area. A historical study of the development of theories of emotion and motivation. (Prerequisite: Psychology 33b).
3 hours a week.

453. **Learning:** A study of the theoretical and experimental approach to learning.
3 hours a week.

RELIGIOUS KNOWLEDGE

Offered by University and Holy Redeemer Colleges

Officers of Instruction: Professor: Rev. L. A. McCann, C.S.B., S.T.D. (Department Head); Associate Professors: Most Rev. C. L. Nelligan, B.A., D.D.; Rev. D. L. Egan, C.Ss.R., S.T.L.; Assistant Professor: Rev. E. J. Crowley, C.Ss.R., S.S.L.

For major in general course, see p. 63. Students taking a major in Religious Knowledge or a combined major in Religious Knowledge and another subject are urged to take one or more of the following options: Philosophy 22, 27, 34; History 11.

14a. **Sacred Scripture:** Introduction to the Bible; inspiration; literary forms. Old Testament studies: the Covenant, the Psalms. New Testament studies: the Good News of Christ.
2 hours a week, one semester (half course).

14b. **Liturgy:** Liturgical worship of the Church, studied in the light of Theology.
2 hours a week, one semester (half course).

15. **Revelation: God:** The sources of revelation; the existence of God; the nature of God; the Divine attributes; the Divine operation; the Blessed Trinity.
2 hours a week.

22a. **Christology:** The last three years of the life of Christ, with an outline of the apposite historical setting and background. The personality of Christ as displayed in His works and teachings.
2 hours a week, first semester (half course).

22b. **Mariology:** History of the Marian devotion; mission and prerogatives of the Blessed Virgin based on the teachings of the Church as found in Sacred Scripture and tradition and encyclicals.
2 hours a week, second semester (half course).

24a. **Catholic Dogma:** Sources and nature of Theology. The Infinite Spirit; the Blessed Trinity; the Incarnation; the Mass and the Sacraments.
2 hours a week, one semester (half course).

24b. **The Fall and Restoration of Man:** Original sin; grace, the habits and virtues.
2 hours a week, one semester (half course).

33a. **Apologetics:** Validation of Christianity's claims.
3 hours a week, one semester (half course).

33b. **Great Minds of the Early Church:** Introduction to the Fathers of the Church.
3 hours a week, one semester (half course).

34a. **The Church:** Notion, structure and development of the Mystical Body of Christ.
2 hours a week, one semester (half course).

34b. **Sacramental and Moral Theology:** The sacraments; contemporary moral problems; the layman in the Church.
2 hours a week, one semester (half course).

Offered by Canterbury College

Officers of Instruction: Professor: Rev. R. S. Rayson, M.A., S.T.B., D.D. (Department Head); Lecturer: Rev. F. T. Kingston, M.A., B.D., D.Phil.

14C. **The Basis of Christian Belief:** Revelation, Reason, and Faith. The Bible as a source of revelation: its inspiration; development of the Canon and Text of the Old and New Testaments. The Anglican use of Scripture, reason and tradition. The elements of Christian belief as contained in the Three Creeds.
2 hours a week.

24C. **The Principles of Christian Conduct:** The moral law, cardinal and theological virtues, and notable duties. Habitual and actual grace, prayer, and the Sacraments. Specific problems such as betting and gambling, divorce, and temperance, and the application of Christian standards to industry, commerce, labour and politics. Seminars and essays will be required.
2 hours a week.

34C. **The Christian Doctrine of God:** His existence and attributes; creation; analogy and the problem of theological language. The Blessed Trinity; the Person of Christ; the Person of the Holy Spirit. Readings in selected texts of the Church Fathers.
2 hours a week.

RUSSIAN

(See p. 134.)

SOCIOLOGY

Lecturer: R. A. Helling, B.A., Dipl.-Sozialwirt.

For major in general course, see p. 63.

11a. **Introduction to Sociology:** The concepts and methods of sociology; forms of social organization; problems of the modern community. Not open to majors.
2 hours a week, one semester (half course).

12. **Introduction to Sociology:** The study of social organization and the social process; the analysis of group life, social contacts, interaction, social forces, conflicts, accommodation, assimilation, amalgamation, and methods of social control.
3 hours a week.

23. **Social Problems:** The study of personality disorganization and maladjustment from the point of view of sociology; the problems of poverty, physical and mental deficiency, alcoholism, insanity, delinquency and crime; social change and social disorganization, the pathology of social groups and classes, the pathology of economic and cultural relations.
3 hours a week.

32. **Urban Community:** Form and development of the urban community. Study of the demographic structure, the functional organization of a heterogeneous society. Special emphasis is put on the industrial community. Study of the means of control and social planning. Study of the rehabilitation and conservation of changing neighbourhoods.
2 hours a week.

35. **The Development of Sociological Theory:** European and American social theory.
3 hours a week.

Honours Courses

332. **Urban Community:** Form and development of the urban community. Social planning for urban redevelopment. Study of social patterns in the city. Urban rehabilitation and neighbourhood conservation. A comparative evaluation of different functional designs of cities.
3 hours a week.

335. **The Development of Sociological Theory:** European and American social theory. Pioneers of sociology, contributions of sociologists in Germanic countries, Slavic countries; French sociology, English sociology and North American sociology. The recent trend in sociological theory; the theory of action.
3 hours a week.

SPANISH

(See p. 134.)

SPEECH

For staff, see English Department, p. 117.

15y. **Public Speaking.**
1 hour a week (half course).

20. **Advanced Public Speaking.**
2 hours a week.

30. **Stage Movement and Acting:** Principles of balance and coordination; freedom through control; dramatic expression through mime; music as an aid to rhythm, expression, style; simple dance forms; grouping. Character imagination and presentation; subordination of the individual in producing the emotional tension, atmosphere and shape of the play.
2 hours a week.

32. **Use and Management of the Voice:** Subconscious control of the voice; training of the immature voice in physical control and expressive capacity; training the voice as a physical instrument without relation to interpretation.
2 hours a week.

36. **Diction and Interpretation:** Consideration of the problems of speech in performance of prose and verse for the purpose of interpretation. Rhythm and phrasing; structure and intellectual and emotional content of prose and poetry; imaginative interpretation; audience attention.
2 hours a week.

ZOOLOGY

(See p. 99.)

SEMESTER-HOUR EQUIVALENTS

The following list has been compiled for the convenience of evaluating committees in institutions which employ a credit system.

I. Grade XIII Subjects:

Two papers in each of: English, French, German, Greek, Italian, Latin, Spanish	6
Chemistry, Physics (each)	4
Algebra, Botany, Geography, Geometry, History, Mathematics of Investment, Music, Trigonometry, Zoology (each)	3

II. University Subjects:

	Semester Credits
Anthropology	
10	6
Biology	
1	6
16a	4
Botany	
1a	3
10	6
16b	4
26	6
30a	3
30b	3
243	6
333	6
336	6
337y	4
400	6
440a	3
446	6
Business Administration	
15	6
250	8
346a	3
346b	3
350	6
351	6
353	6
356	6
360	6
370	6
450a	3
450b	3
451a	3
451b	3
452a	3
452b	3
453	6
455	6
456b	3
457b	3
459	6
460a	3
470y	4
480a	3
480b	3
489	6
490	6
491	6
493	6
494	6
496	6
Chemistry	
1a	4
10	8
22	6
22m	5
23	6
24	4
32b	3
34	6
36	6
36x	4
38	6
38x	4
222	6
232	8
233	8
244	4
332	6
333	7
334	8
335	5
344	10
346	8
346x	6
444	8
444x	6
446	10
449	12
450y	2
451y	2
454	6
456a	3
456b	3
Economics	
15	4
19	6
21	6
23	6
31	6
34	6
36	6
37a	3
37b	3
219	6
221	6
223	6
237a	3
237b	3
301	6
306a	3
306b	3
336	6
338	6
353	6
400	6
402	6
410	6
431	6
432b	3
434	6
English	
5	6
11	4
15	6
21	6
22	6
33y	2

	Semester Credits
34	6
35	6
36	6
38	6
39	6
212y	2
236	6
250	6
254	6
333	6
335	6
350	6
356	6
357y	2
358	6
363y	4
441y	2
450	6
459	6
460	6
463	6
470y	2

Fine Arts

	Semester Credits
16	6
23a	1
26	6
36	6

French

	Semester Credits
A	6
2	6
12	6
21	6
22y	2
23y	4
27	6
31	6
260y	2
261y	2
270	6
375y	2
376y	2
380	6
490	6
495	6
496y	2

Geography

	Semester Credits
10	6
19	6
21	6
24	6
31	6
34	6
219	6
324	6
334	6

Geology

	Semester Credits
10	6
10e	5

German

	Semester Credits
A	6
2	6
12	6
21	4
31	6

Greek

	Semester Credits
A	6
2	6
12	6

History

	Semester Credits
4	6
10	6
11	4
23a	3
24	4
26	4
27	6
31	6
34	4
35	6
36	6
37	6
38	6
39	6
236	6
257	6
324	6
331	8
333a	3
335	6
337	6
354b	3
356a	3
358	6
434	6
439	6
452	6
455	6
461	6

Home Economics

	Semester Credits
10	6
25a	3
25b	3
27	6
31	6
37	6

Italian

	Semester Credits
A	6
2	6

Latin

	Semester Credits
A	6
2	6
12	6
22	6
23	4
24	6
31	6
32y	2

Mathematics

	Semester Credits
1y	3
2y	3
3y	3
4a	3
4b	3
11	6
13b	3
15	6
21	6
22	6
25	10
25x	8
27	6
27x	4
30a	3
30b	3
32a	3
32b	3
33	8
35	6
35x	4
37	6
39b	3
227	6
229	6
254	6
300	6
331	6
332	6
341a	3
341b	3
354	6
400	6
429b	3
437	6
438a	2
444	6
448	6
449a	3
449b	3
450a	3
450b	3
451	6
453	6

Music

	Semester Credits
1	6
11	6

Nursing

	Semester Credits
30	6
31	6
32b	2
33a	2
34	10
35	6
39b	2

Philosophy

	Semester Credits
15	6
15a	3
21a	3
22	4
25a	3
25b	3
26b	3
27	6
28a	3
31	6
34	6
35a	3
35b	3
36a	2
36b	2
39a	3
221a	3
222	6
226b	3
228a	3
327	6
334	6
336a	3
336b	3
350	6
423b	3
431	6
435a	3
435b	3
439a	3
450	6

Physics

	Semester Credits
1a	4
10	8
12	5
13	8
15	5
22	6
23	6
26	8
27	5
31	6
34	6
36	6
36x	4
46	4
222	6
223	6
331	6
334	6
336	6
350	6
370	4
442a	3
442b	3
450	6
451	6
452	6
466a	3
466b	3
470	6

Political Science

	Semester Credits
12	6
20	4
31	6
212	6
220	6
331	6
334	6
432a	3
443	6
452	6

Psychology

	Semester Credits
15	6
21	4
22	6
26a	3
27	6
28	6
29	6
30	6
31	6
33a	3
33b	3
34	6
35a	3
222	6
226a	3
228	6
233a	3
233b	3
327	6
329	6
330	6
331	6
334	6
450	6
451	6
452	6
453	6

Religious Knowledge

	Semester Credits
14a	2
14b	2
14C	4
15	4
22a	2
22b	2
24a	2
24b	2
24C	4
33a	3
33b	3
34a	2
34b	2
34C	4

Russian

	Semester Credits
A	6
2	6
12	6

Sociology

	Semester Credits
11a	2
12	6
23	6
32	4
35	6
332	6
335	6

Spanish

	Semester Credits
A	6
2	6
4	10
12	6
21	6
22y	2
23y	4
33	6
34	6
221	6
222y	2
223y	4
333	6
334	6
335y	2
432	6
433	6
435y	2

Speech

	Semester Credits
15y	2
20	4
30	6
32	6
36	6

Zoology

	Semester Credits
1a	3
10	6
22	10
24a	3
26	6
27	6
28	6
29y	4
30b	3
37a	3
231	10
330b	3
333	6
335	6
400	6
432a	3
436	6
438x	4
440a	5
441a	3
442b	3
443	6
447b	3

THE FACULTY OF APPLIED SCIENCE

THE FACULTY OF APPLIED SCIENCE

Faculty Council Name of Dean

name them all

The Dean of Applied Science, Chairman; The President; the Executive Vice-President; the Registrar; the Principal of Essex College; and members of Departments as follows:

all ex officio

Maurice Adelman, Ph.D., (Chairman) Chemical Engineering.

H. P. Herbich, D.Sc.(Eng.), (Chairman) Civil Engineering.

W. G. Colborne, M.Sc., (Chairman) Mechanical Engineering.

R. G. Billinghurst, M.A.Sc., Engineering Sciences.

H. R. Fletcher, M.A.Sc., Electrical Engineering.

T. S. Wu, M.S., Ph.D., Engineering Mechanics.

Officers of Instruction—Full Time

Maurice Adelman; B.A.Sc. (Toronto, 1937), M.A.Sc. (ibid., 1940), Ph.D. (ibid., 1946). Professor and Chairman, Department of Chemical Engineering—1956.

George Borys Babiy; B.Sc. (Manitoba, 1957), M.Sc. (ibid., 1960). Lecturer in Mechanical Engineering—1959.

Robert Gordon Billinghurst; B.A.Sc. (Toronto, 1940), M.A.Sc. (ibid., 1949). Associate Professor of Chemical Engineering—1957.

William George Colborne; B.Sc. (Queen's, 1948), M.Sc. (ibid., 1950). Associate Professor and Chairman, Department of Mechanical Engineering—1958.

F A DeMarco

Douglas Donald Duquette; B.A. (Western Ontario, 1952), M.S. (Michigan State, 1955), B.S. (Michigan State, 1959). Assistant Professor of Civil Engineering—1952.

Harold Ross Fletcher; B.A.Sc. (Toronto, 1949), M.A.Sc. (ibid, 1957). Lecturer in Electrical Engineering—1958.

Alex William Gnyp; B.A.Sc. (Toronto, 1953), M.A.Sc. (ibid., 1954), Ph.D. (ibid., 1958). Assistant Professor of Chemical Engineering—1958.

James Paul Hartt; B.A.Sc. (Toronto, 1950), O.L.S. (1957). Lecturer in Civil Engineering—1958.

Henryk Pawel Herbich; Dipl. Ing. (Warsaw, 1921), D.Sc. (Eng.) (Edinburgh, 1943). Professor and Chairman, Department of Civil Engineering—1959.

Rev. Arthur Robert Howell, C.S.B.; B.Sc. (Saskatchewan, 1949), S.T.B. (St. Michael's, Toronto, 1957), M.A.Sc. (Toronto, 1959). Lecturer in Mechanical Engineering—1958.

Hu Hsien Hwang; B.Sc. (National Chiao-Tung (Shanghai), 1949), M.S. (Lehigh University, 1956), Ph.D. (ibid., 1959). Assistant Professor of Electrical Engineering.

John Duncan Joyce; B.Sc. (Queen's, 1957), M.S.E. (Michigan, 1959). Lecturer in Electrical Engineering—1959.

Cameron H. Montrose (E); B.Sc. (Queen's, 1920). Instructor in Engineering—1957.

Chi Tien; B.S. (National Taiwan University, 1952), M.S. (Kansas State University, 1954), Ph.D. (Northwestern University, 1957). Research Associate—1959.

Tze Sun Wu; B.S. (National Chiao-Tung (Shanghai), 1941), M.S. (Washington, 1949), Ph.D. (Illinois, 1952). Associate Professor of Civil Engineering—1957.

Special exams

ACADEMIC REGULATIONS

I. General Regulations: see p. 44.

II. Particular Regulations:

1. The student must hand in all laboratory reports and specified homework assignments before he can present himself for the final examination.
2. The student must attend all laboratories unless he has special permission from his instructor or a medical certificate to account for his absence.
3. A student who fails his year may retain credit for any course in which he has a Grade A but must repeat all other course work.
4. No student while repeating his year should be allowed to take courses in the next higher year. without permission of Dept head & Dean
5. No student should be permitted to carry a subject into the next higher year unless he has tried the supplemental examination in that subject.
6. If a student has failed to pass in some of his courses but has not failed his year, he will write supplemental examinations which will be included with his original term mark to arrive at a final grade. Where laboratory work is not considered satisfactory some additional work in the laboratory portion of the course may be required at the discretion of the instructor and his department head.
7. For promotion to the next year of the Engineering course, a student must obtain an overall average of 50% in the Spring examinations. A student with this minimum average [50%] is allowed to write supplemental examinations in three full courses but not more than four papers. If he has failed in more than one full course after supplementals he must repeat the year.
8. A student in Engineering may be allowed to carry a failed supplemental for not more than one year. That is, a First Year subject cannot be carried into the Third Year, and a Second Year subject cannot be carried into the Fourth Year. If a student fails a supplemental in the Fourth Year, his case will be considered by the Academic Standing Committee.
9. Candidates in the Engineering course will be ranked in order of merit in each year and in each subject in four classes; those who obtain 75% or over of the total number of marks will be placed in Class I; those who obtain 66% to 74% will be placed in Class II; those who obtain 60% to 65% will be placed in Class III; those who obtain between 50%, the minimum for pass, and 59%, will be placed in Class IV. (Standing in general subjects will be indicated by letter grades (see p. 60).) — ? ?

ask for 60% average of repeaters

How about C standing in Major Subjects

How does one fail

What about Honours Graduati

60-66 % average
recommended
but other criteria
would be considered

BACHELOR OF APPLIED SCIENCE

Admission Requirements:

EITHER: 60% average in 9 Grade XIII papers as follows:
60% combined average in Algebra, Geometry, and Trigonometry; 60% combined average in Physics and Chemistry; English (2 papers), and
Either Another language (2 papers),
Or 2 papers from: Botany, Geography, History, Zoology, providing a Grade XII language has been completed.

OR: Preliminary Year in Science with:
60% overall average,
60% combined average in Mathematics, and Science
~~60% combined average in Science~~.

The Curriculum:

The engineering curriculum given below is established on the premise that the University must attempt to make a contribution to the development of the student as a person, and on the assumption that the graduate will become a professional engineer with certain obligations to society. Take out heavy type

To meet his **technical** responsibility to society, the graduate engineer must be prepared to perform the functions of analysis and design and to use these in the production, construction, and operation of machines and processes on a scientific and economic basis. To meet his **social** responsibility, the graduate who becomes a professional engineer must have qualities of leadership, a deep sense of professional ethics, and a broad general education.

The object of the curriculum is flexibility rather than specialization. Engineering is essentially a creative and rapidly-changing profession which, in its various fields, presents a multitude of specialties and activities that require a sound knowledge of basic mathematics and physical and engineering sciences. Our curriculum attempts to give the student a very broad yet intense foundation in the basic sciences so that, regardless of his undergraduate specialty, he will be prepared to meet the challenge of industrial problems in the vast new areas opened up by the continued growth of these sciences.

The undergraduate curriculum is essentially a program of education with selected courses in the humanities, emphasis on the basic sciences, and an introduction to the broad aspects of technology. The humanities develop the student as a person and enable him to appreciate his responsibilities to his profession and to society. The basic sciences give him flexibility in the pursuance of advanced studies and in his approach to the various specialties. The introduction to technology gives him an appreciation of the practical approach in the scientific and economic solution of problems for the benefit of mankind.

			First Semester		Second Semester	
			Lect.	Lab.	Lect.	Lab.

FIRST YEAR (common to all Engineering courses)

Philosophy	15		3	0	3	0
~~Chem.~~	~~10~~	(Gen. Chem., Qualitative Analysis) ✓	3	3	3	3
Math.	11	(Interm. Alg., Geom., Trig.) ✓	2	2	2	2
Math.	15	(Differential and Integral Calculus) ✓	3	0	3	0
Phys.	12	(Mechanics, Heat and Sound)	4	3	0	0
Phys.	15	(Optics, Electricity, Magnetism) ✓	0	0	4	3
E.S.	100	(Engineering Mechanics) ✓	2	1	2	1
C.E.	100	(Engineering Graphics) ✓	1	5	1	3
G.E.	101	(Orientation)				
G.E.	102	(Practical Experience)				

I. CHEMICAL ENGINEERING

The expanding chemical industry requires more and more chemical engineers to spearhead its operation. Students contemplating careers in Chemical Engineering can therefore look forward to employment opportunities in technical sales, plant and equipment design, process design and control, production, and basic research in such fields as fermentation, petroleum, synthetic plastics and detergents, protective coatings and a host of other related industries. The Chemical Engineering program at Essex College is designed to give the student the basic requirements for such a future and to allow him maximum opportunity to choose his field of interest.

SECOND YEAR

	First Semester		Second Semester	
	Lect.	Lab.	Lect.	Lab.
R. K. 24 or 24C or Philosophy 22 ?	2	0	2	0
History 26	2	0	2	0
Math. 25x (Methods of Applied Math. I)	4	0	4	0
Math. 27 (Methods of Applied Math. II)	2	2	2	2
Chem. 22 (Quantitative Analysis) ✓	2	3	2	3
Chem. 244 (Physical Chemistry I) ✓	2	0	2	0
E.S. 200 (Mechanics of Materials)	2	0	2	0
Ch. E. 200 (Elementary Process Calculations)	1	2	1	2
E.E. 200a (Electrical Fundamentals) ?	2	3	0	0
E.E. 201b (Electrical Machines)	0	0	2	3

THIRD YEAR

	First Semester		Second Semester	
	Lect.	Lab.	Lect.	Lab.
Philosophy 25a	0	0	3	0
English (Option)	3	0	0	0
Math. 35x (Methods of Applied Math. III)	2	0	2	0
Chem. 23 (Organic Chem. I)	2	3	2	3
Chem. 334 (Physical Chemistry II)	3	3	3	3
E. S. 300 (Fluid Mechanics)	2	1½	2	1½
Ch. E. 300y (Chem. Process Technology)	1	0	1	0
Ch. E. 301 (Unit Operation)	2	1½	3	3
Ch. E. 302 (Thermodynamics)	3	1½	3	0

FOURTH YEAR

	First Semester		Second Semester	
	Lect.	Lab.	Lect.	Lab.
Economics 15	2	0	2	0
Humanities Option	3	0	0	0
Chem. 38x (Organic Chemistry II)	2	0	2	0
Chem. 444 (Physical Chemistry III) 2	3	0	3	0
Math. 30b (Theoretical Mechanics) or option	0	0	3	0
Physics 36x (Modern Physics)	2	0	2	0
G. E. 400a (Engineering Profession, Law)	2	0	0	0
Ch. E. 401 (Mass Transfer Operations)	3 ✓	3	1	3
Ch. E. 402 (Chem. Eng., Kinetics)	2	0	2	0
Ch. E. 403a (Instrumental Analysis)	1	3	0	0
Ch. E. 404b (Plant Design)	0	0	2	6
Ch. E. 410y (Senior Project)	0	3	0	3

19

Phys 27 or 27X

II. CIVIL ENGINEERING

The field of Civil Engineering includes the conception, design, operation and maintenance of schemes, including buildings, highways, railroads, waterways, airports, bridges, harbours, tunnels, water supply and purification systems, sewage collection and treatment facilities, hydraulic structures, dams, water power developments, and the conduction of surveys and research. The Civil Engineering curriculum at Essex College provides for a diversity of applied course work to aid the student in selecting his major field of endeavour as well as a thorough background in the basic sciences and a broad understanding of the social sciences and humanities.

SECOND YEAR

	First Semester		Second Semester	
	Lect.	Lab.	Lect.	Lab.
R. K. 24 or 24C or Philosophy 22	2	0	2	0
History 26	2	0	2	0
Geology 10e (Introductory)	2	2	2	0
Math. 25x (Methods of Applied Math. I)	4	0	4	0
Physics 27 (Intro. to Thermodynamics)	2	1½	2	1½
E. S. 200 (Mechanics of Materials)	2	1½	2	1½
E. S. 202 (Engin. Materials)	2	0	2	0
C. E. 200y (Graphic Statics)	0	1½	0	1½
C. E. 201 (Surveying & Photogrammetry)	3	3	3	3

THIRD YEAR

	First Semester		Second Semester	
	Lect.	Lab.	Lect.	Lab.
Philosophy 25a	0	0	3	0
English option	3	0	0	0
Math 35x (Methods of Applied Math. III)	2	0	2	0
E. S. 300 (Fluid Mechanics)	2	1½	2	1½
E. E. 200a (Electrical Fundamentals)	2	3	0	0
E. E. 201b (Electrical Machines)	0	0	2	3
C. E. 300 (Structural Theory & Design I)	2	3	2	3
C. E. 302 (Hydrology)	2	1½	1	1½
C. E. 303 (Soil Mechanics)	2	1½	2	1½
C. E. 304 (Reinforced Concrete)	2	1½	2	1½
C. E. 401 (Civil Engineering Summer Camp) 3 weeks				

075

math 35

FOURTH YEAR

	First Semester		Second Semester	
	Lect.	Lab.	Lect.	Lab.
Economics 15	2	0	2	0
Humanities option	3	0	0	0
Physics 36x (Modern Physics)	2	0	2	0
G. E. 400a (Engineering Profession, Law)	2	0	0	0
C. E. 400 (Structural Theory & Design (II))	2	3	2	3
C. E. 402 (Advanced Hydaulics)	2	3	2	3
C. E. 403 (Foundation Engineering)	1	2	1	2
C. E. 404 (Transportation Engineering)	2	0	2	0
C. E. 405 (Sanitary Engineering)	2	3	2	3
C. E. 406b (Construction Methods & Machines)	0	0	2	0
C. E. 410b (Essay & Seminar)	0	0	1	2

2/3

III. ELECTRICAL ENGINEERING

The electrical engineer is one who practises the science and art of economically "directing the sources of electrical energy in nature for the uses and conveniences of man". He may design, manufacture, install, operate or sell electrical machinery and equipment, manage plants or promote engineering projects. Our curriculum gives the student a strong program in general education and a sound technical training—a foundation sufficiently fundamental to facilitate his placement in any branch of the wide field of Electrical Engineering which today ranges from microwave communications to central power-station generation and transmission.

SECOND YEAR

	First Semester Lect.	First Semester Lab.	Second Semester Lect.	Second Semester Lab.	
R. K. 24 or 24C or Philosophy 22	2	0	2	0	
History 26	2	0	2	0	
✓ Math. 25 (Methods of Applied Math. I)	4	2	4	2	
? Math. 27 (Methods of Applied Math. II)	2	2	2	2	
? Physics 27 (Intro. to Thermodynamics)	2	1½	2	1½	
✓ E. S. 200 (Mechanics of Materials) ✓	2	1½	2	1½	
✓ E. S. 202 (Engin. Materials) ✓	2	0	2	0	
✓ E. E. 200a (Electrical Fundamentals)	2	3	0	0	1
✓ E. E. 202b (A. C. Circuits I)	0	0	2	1½	
E. E. 203b (D. C. Machines)	0	0	2	3	1

2

1½

THIRD YEAR

	First Semester Lect.	First Semester Lab.	Second Semester Lect.	Second Semester Lab.	
Philosophy 25a	0	0	3	0	
English option	3	0	0	0	
Math. 35 (Methods of Applied Math. III)	2	2	2	2	
E. S. 300 (Fluid Mechanics)	2	1½	2	1½	
E. S. 303 (Engineering Thermodynamics)	2	0	2	3	
E. E. 300 (Electromagnetic Theory)	2	1½	2	1½	1
E. E. 302 (A. C. Circuits II)	2	0	2	0	
E. E. 303b (A. C. Machines I)	0	0	2	3	1½
E. E. 304a (Electrical Measurements)	2	3	0	0	2½
E. E. 306 (Electronics I)	2	2	2	2	1
M. E. 300a (Machine Design)	3	2	0	0	

4

FOURTH YEAR

	First Semester Lect.	First Semester Lab.	Second Semester Lect.	Second Semester Lab.	
Economics 15	2	0	2	0	
Humanities option	3	0	0	0	
Physics 36x (Modern Physics)	2	0	2	0	
G. E. 400a (Engineering Profession, Law)	2	0	0	0	
E. E. 403 (A. C. Machines II)	2	3	2	0	1
E. E. 404 (Communications)	3	3	3	3	1
E. E. 405 (Circuit Analysis)	2	0	2	0	1
E. E. 406b (Electronics II)	0	0	2	3	1/2
E. E. 407 (Industrial Electronics & Control)	2	1½	2	1½	1
E. E. 408 (Transmission at Low & High Freq.)	2	0	2	0	1
E. E. 410b (Essay & Seminar)	0	0	1	2	

5½

11

1

12

Total

add EE 305 for ME's

IV. MECHANICAL ENGINEERING

The objects of instruction in this Department are to lay a firm foundation in the basic sciences and mathematics, and to apply these courses to the inception, design and development of machines and mechanical structures. This curriculum equips the student to proceed into industrial or research work in one or more of the following areas: design, construction, operation or testing of steam-engines or turbines, steam-generating apparatus, internal combustion engines, hydraulic machines, compressed air machines, ice-making and refrigerating machinery, heating, ventilating and air-conditioning equipment, machine tools, transmission equipment, etc. In addition, the broad fields of production planning and design of manufacturing processes are open to the mechanical engineer.

SECOND YEAR

	First Semester		Second Semester	
	Lect.	Lab.	Lect.	Lab.
R. K. 24 or 24C or Philosophy 22	2	0	2	0
History 26	2	0	2	0
Math. 25 (Methods of Applied Math. I)	4	2	4	2
Physics 27 (Intro. to Thermodynamics)	2	1½	2	1½
E. S. 200 (Mechanics of Materials)	2	1½	2	1½
E. S. 202 (Engin. Materials)	2	0	2	0
E. E. 200a (Electrical Fundamentals)	2	3	0	0
E. E. 203b (D. C. Machines)	0	0	2	3
M. E. 200 (Mechanics of Machines)	2	3	2	3

THIRD YEAR

	First Semester		Second Semester	
	Lect.	Lab.	Lect.	Lab.
Philosophy 25a	0	0	3	0
English option	3	0	0	0
Math. 35 (Methods of Applied Math. III) D.K.	2	2	2	2
E. S. 300 (Fluid Mechanics)	2	1½	2	1½
E. S. 304 (Principles of Heat Transfer)	2	1½	2	1½
E. S. 311a (Engineering Metallurgy)	2	3	0	0
E. E. 303b (A. C. Machines I)	0	0	2	3
E. E. 305 (Circuits & Electronics)	2	0	2	0
M. E. 301 (Machine Design I)	2	3	2	3
M. E. 303 (Engineering Thermodynamics I)	2	1½	2	1½

FOURTH YEAR

	First Semester		Second Semester	
	Lect.	Lab.	Lect.	Lab.
Economics 15	2	0	2	0
Humanities Option	3	0	0	0
Physics 36x (Modern Physics)	2	0	2	0
G. E. 400a (Engineering Profession, Law)	2	0	0	0
M. E. 401 (Machine Design II)	2	3	2	3
M. E. 403 (Engin. Thermodynamics II)	2	3	2	3
M. E. 407b (Control Theory)	0	0	3	0
M. E. 410b (Essay, Seminar)	0	0	0	3

All students must take the above courses plus two of the optional courses listed below. (The number of options given in Mechanical Engineering will depend on the student enrollment.)

	First Semester		Second Semester	
	Lect.	Lab.	Lect.	Lab.
C. E. 402 (Advanced Hydraulics)	2	3	2	3
E. E. 403 (A. C. Machines II)	2	3	2	0
M. E. 402 (Internal Combustion Engines)	2	3	2	3
M. E. 404 (Heating & Air Conditioning)	2	3	2	3
M. E. 405 (Power Plant Design)	2	3	2	3
M. E. 406 (Principles of Turbomachinery)	2	3	2	3

V. ENGINEERING PHYSICS

This course is sometimes called the "honours course" of Engineering. It contains a high concentration of Mathematics, Physics and the Engineering Sciences. The course is intended to prepare the student for graduate work in one of the branches of Engineering or in Physics. Alternately the student, on graduation, may seek employment in any organization or agency involved in high-level applied research.

Admission requirements: Completion of the First Year of Engineering with at least 66% average in Physics and Mathematics and an overall average of 60%.

	First Semester		Second Semester	
SECOND YEAR	Lect.	Lab.	Lect.	Lab.
History 26	2	0	2	0
R.K. 24 or 24C or Philosophy 22	2	0	2	0
Physics 222 (Optics) 3	2	3	2	3
Physics 223 (Electricity & Magnetism) 3	2	3	2	3
E.S. 200 (Mechanics of Materials)	2	1½	2	1½
E.S. 202 (Engineering Materials)	2	0	2	0
Mathematics 25	4	2	4	2
Mathematics 27	2	2	2	2
	20			
THIRD YEAR				
English option ✓ ✓	3	0	0	0
Philosophy 25a	0	0	3	0
Chemistry 244 (Physical Chemistry I) ✓	2	0	2	0
Mathematics 35 ✓ ✓	2	2	2	2
E.S. 300 (Fluid Mechanics) ✓	2	1½	2	1½
Physics 331 (Thermodynamics)	2	2	2	2
Physics 336 (Modern)	2	2	2	2
*Either: E.S. 301 (Physical Metallurgy I)	2	1½	2	1½
E.E. 306 (Electronics I)	2	2	2	0
	17	11	12	9
**Or: Physics 334 (Electronics)	2	2	2	2
Physics 350 (Theoretical Physics I)	3	0	3	0
FOURTH YEAR				
Economics 15	2	0	2	0
Humanities option	3	0	0	0
Physics 466 (Nuclear, Solid State)	2	0	2	0
E.E. 406b (Electronics II)	0	0	2	3
Either: Physics 350 (Theoretical Physics I)	3	0	3	0
G.E. 400a (Engineering Profession)	2	0	0	0
410b (Essay, Seminar)	0	0	1	2
§Or: ~~Physics 450 (Theoretical Physics II)~~	2 ~~3~~	~~0~~	2 ~~3~~	~~0~~
And one of the following options: §§				
A. METALLURGY				
Chemistry 344x (Physical Chemistry II)	3	0	3	0
Physics 442 (Crystallography, X-ray)	2	0	2	0
E.S. 401 (Physical Metallurgy II)	1	3	1	3
E.S. 411 (Metallurgy Unit Operations)	1	3	2	3
	19	6	18	11
B. PHYSICS				
Mathematics 438a (Complex Variable)	2	0	0	0
Physics 451 ~~(Mathematical Methods)~~	2 3	0	2 3	0
Physics 452 (Physical Optics)	2	0	2	0
Physics 470 (Senior Physics Lab)	0	9	0	9
C. DEPARTMENTAL OPTIONS				

Three additional courses to be chosen in consultation with the department heads concerned and the Dean of the Faculty of Applied Science.

*Compulsory for those intending to take option other than Physics in IV Year.

**Compulsory for those intending to take Physics option in IV Year.

§For students in the Physics option only.

§§Number of options available depends on student enrollment and demand.

THE FACULTY OF APPLIED SCIENCE

DETAILS OF SUBJECTS

(For details of subjects taken by Engineering students and not listed below, see pp. 96 ff.).

Engineering Sciences

E.S. 100. **Engineering Mechanics:** Course dealing with the principles of statics and dynamics such as composition and resolution of forces; equilibrium of force systems; kinematics and kinetics of rigid bodies; work and energy; impulse and momentum. A variety of applications to engineering problems will be studied in the laboratory.
2 lectures, 1 laboratory hour a week.

E.S. 200. **Mechanics of Materials:** Study of stress-strain relations, elastic and inelastic behavior of materials; tension and compression members, members subject to bending, torsion, combined stresses, repeated loads and dynamic loads. Laboratory includes operations and calibration of testing machines; use of various types of strain-measuring instruments; standard procedures in conduct of tension, compression, flexure, torsion, impact, and hardness tests.
2 lectures a week; 3 laboratory hours alternate weeks.

E.S. 202. **Engineering Materials:** The fundamental principles of the structure of matter as applied to engineering materials such as metals and alloys, resins and protective coatings, plastics, rubber, cement and concrete. A study of boiler water treatment and corrosion.
2 lectures a week.

E.S. 300. **Fluid Mechanics:** Fluid properties, statics, buoyancy, continuity, momentum and energy relations, Euler's and Bernoulli's equations, dimensional analysis, theory of models, incompressible flow, compressible flow, boundary layers and resistance of immersed bodies, measurement of flow.
2 lectures a week; 3 laboratory hours alternate weeks.
Text: Fluid Mechanics by Streeter.

E.S. 301. **Physical Metallurgy I:** A fundamental study of the principles of physical metallurgy; elastic and plastic theory; theories of alloying; microstructure as affected by alloying and heat treatment; correlation between microstructure and mechanical and chemical behavior; kinetics of metallurgical reactions; introduction to X-ray analysis. 2 hours a week; 3 laboratory hours alternate weeks.

E.S. 303. **Engineering Thermodynamics:** First and second law applications, tabulated properties, vapour cycles and power plants, gas cycles and internal combustion engine applications, air compression, modes of heat transfer, conduction in bodies with heat sources.
2 lectures a week; 3 laboratory hours, second semester.
Text: Introduction to Thermodynamics and Heat Transfer by Mooney.

E.S. 304. **Principles of Heat Transfer:** Energy transfer, Fourier Equation, steady and transient state conduction, forced and natural convection, transfer inside and outside of tubes, radiation, heat exchangers with solution of practical problems.

2 lectures a week; 3 laboratory hours alternate weeks.
Text: Heat Transfer Engineering—Schenck.

E.S. 311a. **Engineering Metallurgy:** Application of the principles of physical metallurgy to the consideration of the constitution, microstructure, heat treatment, properties and uses of ferrous and non-ferrous metals and alloys. Laboratory includes the use of the metallurgical microscope, construction of simple binary constitution diagrams, study of the microstructure of simple binary alloys, demonstration of the principles of solidification, cold working and heat treatment of metals.

2 lectures, 3 laboratory hours, first semester (half course).

E.S. 401. **Physical Metallurgy II:** An advanced study of the theories of the metallic and of solid state reactions in alloy systems. X-ray study of metals and alloys from the consideration of structure, phase changes and heat treatment.

1 lecture, 3 laboratory hours a week.

E.S. 411. **Metallurgy Unit Operations:** Unit operations in the field of metallurgy as exemplified by drying, crystallization, diffusion and heat transfer.

1 lecture, 3 laboratory hours a week, first semester.
2 lectures, 3 laboratory hours a week, second semester.

General Engineering

G.E. 101. **Orientation:** Instruction in library science; use of the slide rule.

G.E. 102. **Practical Experience:** Students in all branches of engineering are required to have, before graduation, practical work of a nature acceptable to the department concerned. Work done prior to admission to the University may be accepted.

G.E. 400a. **Engineering Profession and Law:** The development of the engineering profession; professional engineering associations, societies, and services; the status of the engineer in the community; professional ethics. The law and the engineer; contract law and specifications; preparation of specifications and engineering contract documents; companies, partnerships, mechanics' liens, agency, patents. Duties of employees to employers, the duties of liabilities of engineers.

2 lectures a week, one semester (half course).

Chemical Engineering

Officers of Instruction: Professor: Maurice Adelman, M.A.Sc., Ph.D. (Chairman); Associate Professor: R. G. Billinghurst, M.A.Sc.; Assistant Professor: A. W. Gnyp, M.A.Sc., Ph.D.; Research Associate: C. Tien, M.S., Ph.D.

Ch.E. 200. **Elementary Process Calculations:** Gas calculations, vapour pressure and heat capacity. Stoichiometry, material and energy balances in chemical processes. Introduction to graphical methods. 1 lecture, 2 laboratory hours a week, each semester.

Ch.E. 300y. **Chemical Process Technology:** The study of unit processes in Chemical Engineering and their integration in some selected industries.

1 lecture a week (half course).

Ch.E. 301. **Unit Operations:** The theory and practice of energy and mass transfer are considered in the study of centrifugation, filtration, heat transfer, screening, size reduction and solids handling. Drying and evaporation. Plant visits.

2 lecture hours a week, first semester; 3 lecture hours a week, second semester.

One 3-hour lab. on alternate weeks, first semester. One 3-hour lab. a week, second semester.

Ch.E. 302. **Chemical Engineering Thermodynamics:** The applications of thermodynamic principles to chemical engineering practice.

3 lectures a week, both semesters.

One 3-hour lab. on alternate weeks, first semester only.

Ch.E. 401. **Mass Transfer Operations:** Diffusion processes, distillation, evaporation, drying.

3 lectures a week, first semester; 1 lecture a week, second semester; 3 laboratory hours a week, both semesters.

Ch.E. 402. **Intermediate Chemical Engineering Thermodynamics and Kinetics:** Application of thermodynamics and kinetics to problems in the field of chemical engineering.

2 lectures a week.

Ch.E. 403a. **Instrumental Analysis:** Physico-chemical measurements used in industry, and the determination of properties.

1 lecture, 3 laboratory hours a week, first semester (half course).

Ch.E. 404b. **Plant Design:** Design of pilot plant and larger equipment.

2 lectures, 6 laboratory hours a week, second semester (half course).

Ch.E. 410y. **Senior Project:** A full literature study on the technical factors involved in the establishing of a chemical industry.

3 laboratory hours a week, both semesters (half course).

Civil Engineering

Officers of Instruction: Professor: H. P. Herbich, Dipl. Ing., D.Sc. (Chairman); Associate Professor: T. S. Wu, M.S., Ph.D.; Assistant Professor: D. D. Duquette, B.A., M.S., B.S.; Lecturer: J. P. Hartt, B.A.Sc.; Instructor: C. H. Montrose, B.Sc.

C.E. 100. **Engineering Graphics:** First semester—lettering; use of instruments; applied geometry; orthographic projections; dimensioning; sectional views; threads and fasteners; tolerances; working drawings; reproduction of drawings; graphs and charts; simple nomographs. Second semester—orthographic projection; auxiliary and oblique views; graphical solutions of problems involving points, lines and planes; intersections of solids and development of surfaces.

1 lecture a week; 5 laboratory hours a week first semester; 3 laboratory hours a week, second semester.

C.E. 200y. **Graphic Statics:** Composition and resolution of forces; equilibrium polygon; Maxwell diagram; equilibrium polygons through two and three points; lines of resistance.

3 laboratory hours alternate weeks (half course).

C.E. 201. **Surveying and Photogrammetry:** Surveying as applied to engineering; determining distance; angular measurement; bearings; differential levelling; adjustment of instruments; traverses; topographic surveying; hydrographic surveying; earthwork; curves; triangulation; control surveys; field astronomy, and elements of aerial photogrammetry. Field problems and office computations are provided in the laboratory periods to supplement the lectures.

3 lectures, 3 laboratory hours a week.

C.E. 300. **Structural Theory and Design I:** Stability and determinancy of structures; analysis of statically determinate beams, frames and trusses; influence lines for beams, girders and trusses; maximum stress criteria; slope and deflection of beams and trusses. Laboratory includes design of members in tension, compression, and bending; riveted and welded connections; design of industrial building bent and preparation of design drawings.

2 lectures, 3 laboratory hours a week.

C.E. 302. **Hydrology:** The hydrologic cycle; quantitative study of precipitation: types, variations, storm rainfall, intensity-duration-frequency; evapo-transpiration losses; groundwater and infiltration; runoff, characteristics, variation, weather and flood control; flood flows, rational method; unit graph and others; flood routing; water quantity determination for public and industrial purposes.

Summer camp (hydrometry).

2 lectures a week, first semester;
1 lecture a week, second semester;
3 laboratory hours alternate weeks, both semesters.

C.E. 303. **Soil Mechanics:** Physical and mechanical properties of soils, classification tests, shear strength, consolidation, permeability, seepage, frost action, and compaction. Settlement analysis; stability of slopes in cuttings and embankments; bearing capacity of soils; principles of the design and construction of earth dams; laboratory includes analysis of soil properties, and soil strength. Site investigation, including field identification of soil types and sampling operations.

2 lectures a week, 3 laboratory hours alternate weeks.

C.E. 304. **Reinforced Concrete:** Properties of concrete; stress analysis and design of reinforced concrete beams; slabs and columns; combined bending and axial load; applications to footing and walls; introduction to ultimate strength analysis and prestressed concrete. Laboratory includes determination of physical properties of concrete and its component materials; design of concrete mixes.

2 lectures a week, 3 laboratory hours alternate weeks.

C.E. 400. **Structural Theory and Design II:** Analysis of statically indeterminate structures; method of consistent deformation; slope-deflection method; method of moment distribution; Column analogy; influence lines; wind stresses in tall building frames. Laboratory includes design of reinforced concrete and steel structures; building frames, plate girder and truss bridges; preparation of design drawings.

2 lectures, 3 laboratory hours a week.

C.E. 401. **Civil Engineering Camp:** A field course covering secondary triangulation; precise base line measurement; plane table topography; cross sectioning and earth work; and observations for time and azimuth. Field identification of soil types and sampling operation; current-meter measurement.

3 weeks.

C.E. 402. **Advanced Hydraulics:** Flow in pressure conduits in series, parallel branches and network arrangements; design of sanitary and storm sewage systems; uniform and non-uniform flow in open channels. Principal types of pumps and turbines and their limitation. Analysis of losses, part-load characteristic curves; servo-mechanism; cavitation, inlet scrolls, diffusers, draft tubes, volutes. Analysis of gravity and arch dams; weirs and outlet structures; selection of water power structures and equipment; study of penstocks; surge tanks; control gates; transmission lines; theory and practice of models; cost and value of water power; typical problems; laboratory tests and inspection trips.

2 lectures, 3 laboratory hours a week.

C.E. 403. **Foundation Engineering:** Soil Mechanics as applied to foundation engineering, bearing capacity of footings, coffer dams and caissons for bridges and buildings; piers, abutments and sheet piling; earth pressure and the design of retaining walls; pile driving and piled foundations; drainage prior to excavation. Design of road and airport runway foundations.

1 lecture a week, 2 laboratory hours a week.

C.E. 404. **Transportation Engineering:** Study of transportation facilities, including highways, railroads, airways, waterways and pipelines; study of the basis for design, pavements and subgrades, drainage, and intersections for highways; design of roadbed; turnouts, crossovers, frogs and track parts for railways; field layout; capacity, drainage, lighting and studies of subbases, bases and surfaces for aprons; runways and taxiways in airport design; control and regulation of rivers, canalization, design of ship canals, locks, movable dams, harbours; river mechanics, transport of solids; fundamentals of types of fluid flow for pipe-line transportation; preliminary survey, design procedures, some construction and requirements.

2 lectures a week.

C.E. 405. **Sanitary Engineering:** Municipal water supply; quantity required; quality necessary for the various purposes used; design of treatment plants to obtain the required quality; process of sedimentation; coagulation; filtration; softening; iron removal and sterilization; sewerage and drainage; health relationships; principles of sewage disposal and treatment; development of rural sanitary facilities. The sanitary engineers role in public health. The laboratories include chemical analysis of water and sewage; design of water and sewage treatment plants; field trips.

2 lectures, 3 laboratory hours a week.

C.E. 406b. **Construction Methods, Machines:** Preliminary planning; estimating costs; site preparation; construction equipment and capacities for earthworks, rock excavation transportation; pumping, hoisting, conveying and concrete preparation; job management.

2 lectures a week, one semester (half course).

C.E. 410b. **Essay and Seminar:** Detailed literature investigation of a project in civil engineering, the various details of which are to be discussed individually in seminar. The seminar discussions are to be compiled by each student in the form of a written essay to be submitted at the end of the fourth year.

1 lecture, 2 laboratory hours a week, one semester (half course).

Electrical Engineering

Officers of Instruction: Assistant Professor: H. H. Hwang, M.S., Ph.D.; Lecturers: H. R. Fletcher, M.A.Sc.; J. D. Joyce, M.S.E. Chairman and one other member to be appointed.

E.E. 200a. **Electrical Fundamentals:** Basic account of electric and magnetic circuits.
2 lectures, 3 laboratory hours a week, first semester (half course).

E.E. 201b. **Electrical Machines:** Theory and characteristics of D.C. and A.C. machinery.
2 lectures, 3 laboratory hours a week, second semester (half course).

E.E. 202b. **Alternating Current Circuits I:** Theory of A.C. circuits including a study of three-phase networks.
2 lectures a week, 3 laboratory hours alternate weeks, second semester (half course).

E.E. 203b. **Direct Current Machines:** Theory and characteristics of D.C. motors, generators and related equipment.
2 lectures, 3 laboratory hours a week, second semester (half course).

E.E. 300. **Electromagnetic Theory:** Electrostatics, magnetostatics and electromagnetism leading to Maxwell's Equations.
2 lectures a week, 3 laboratory hours alternate weeks.

E.E. 302. **Alternating Current Circuits II:** A study of characteristics and analysis of various types of circuits.
2 lectures a week.

E.E. 303b. **Alternating Current Machines I:** Squirrel-cage and wound rotor induction motors, transformers, autotransformers.
2 lectures, 3 laboratory hours a week, second semester (half course).

E.E. 304a. **Electrical Measurements:** Instruments, bridges, measurement standards.
2 lectures, 3 laboratory hours a week, first semester (half course).

E.E. 305. **Circuits and Electronics:** Network theory, network analysis and electronic circuits and applications.
2 lectures a week.

E.E. 306. **Electronics I:** Fundamentals of vacuum tubes, gas discharge tubes, cathode ray tubes and solid state devices.

2 lectures, 2 laboratory hours a week.

E.E. 403. **Alternating Current Machines II:** Theory and characteristics of alternating current machines; alternator, synchronous motor, synchronous converter, rectifiers, commutator motors.

2 lectures a week, 3 laboratory hours a week first term;
2 lectures a week second term.

E.E. 404. **Communications:** Theory and practice of amplification, modulation, demodulation and frequency conversion. Frequency spectra for transmission of various types of information.

3 lectures a week, 3 laboratory hours a week.

E.E. 405. **Circuit Analysis:** Analytical methods used to derive general network theorems. Transfer functions of networks using Laplace transforms.

2 lectures a week.

E.E. 406b. **Electronics II:** Theory and design of power amplifiers, antennae, vhf, uhf systems.

2 lectures a week, 3 laboratory hours a week, second term (half course).

E.E. 407. **Industrial Electronics and Control:** Applications of electronics to automatic control systems.

2 lectures a week, 3 laboratory hours alternate weeks.

E.E. 408. **Transmission at Low and High Frequencies:** Fundamentals of power transmission and distribution systems. Characteristics of high frequency transmission systems; filters, characteristic impedances.

2 lectures a week.

E.E. 410b. **Essay and Seminar:** Detailed literature investigation of an electrical engineering project given by the student as a seminar and as a written essay.

1 lecture, 2 laboratory hours a week, one semester (half course).

Mechanical Engineering

Officers of Instruction: Associate Professor: W. G. Colborne, M.Sc. (Chairman); Lecturers: G. Babiy, M.Sc.; Rev. A. R. Howell, C.S.B., M.A.Sc.

M.E. 200. **Mechanics of Machines:** Linkages, governors and cams, motion transmitted by toothed gearing, gear trains, analog computing mechanisms, instantaneous centre analysis, relative velocity and acceleration, velocities and accelerations in machines with graphical and analytical solutions, static and inertia forces, force analysis of engines.

2 lectures, 3 laboratory hours a week.

Text: Kinematic Analysis of Mechanisms—Shigley.
Problems in Dynamics of Machinery—Leutwiller.
References: Mechanics of Machinery—Ham, Crane and Rogers.

M.E. 300a. **Machine Design:** The design of elementary machine elements including shafts, couplings, keys, bearings, belt drives, gearing, bolts, screws, joints, etc.

3 lectures a week, first semester; 2 laboratory hours a week, first semester (half course).

M.E. 301. **Machine Design I: Balancing.** Theories of failure, factors of safety, stress concentrations, fatigue stresses, creep and high temperature properties. Design of machine members; bolts, joints, power screws, shafts, belt, rope and chain drives, bearings and lubrication, spur gears.

2 lectures, 3 laboratory hours a week, all year.
Text: Machine Design by Shigley.

M.E. 303. **Engineering Thermodynamics I:** First and second law applications, properties of pure substances and tabulated properties, properties of gases, vapour cycles and steam power plants, reciprocating expanders and compressors, steam engines, gas compression, refrigeration, gas cycles.

2 lectures a week; 3 laboratory hours alternate weeks.

M.E. 401. **Machine Design II:** Bevel, helical and worm gears, brakes and clutches, fly wheels and pulleys, springs, miscellaneous machine elements, vibrations.

2 lectures, 3 laboratory hours a week, all year.
Text: Machine Design by Shigley.

M.E. 402. **Internal Combustion Engines:** Engine types and operation,—aircraft, automotive and marine, theoretical cycles, engine testing, fuels and combustion, combustion charts, carburetion and injection, ignition systems, valves and valve mechanisms, design problem.

2 lectures, 3 laboratory hours a week.

M.E. 403. **Engineering Thermodynamics II:** Fluid flow, nozzles and orifices, super-saturated flow in steam nozzles, turbines, combustion processes, internal combustion engine power plants, properties of gaseous mixtures, air-water vapour mixtures, the psychrometric chart, applications in air conditioning.

2 lectures, 3 laboratory hours a week.

M.E. 404. **Heating and Air Conditioning:** Physiological principles, heating and cooling loads, heating and cooling methods and equipment, air systems, steam and water systems, fuels, chimney and draft calculations, refrigeration, evaporative cooling, cooling towers, industrial ventilation.

2 lectures, 3 laboratory hours a week.

Text: A.S.H.R.A.E. Heating and Ventilating Guide.

M.E. 405. **Power Plant Design:** Combustion and fuels, power plant types, design of steam plant components, design for reheat, regeneration, and binary vapour cycles, nuclear power plants, types of reactors, special heat transfer problems, control and safety devices.

2 lectures, 3 laboratory hours a week.

M.E. 406. **Principles of Turbomachinery:** Dimensional analysis applications to turbomachinery, energy and momentum relations, flow of fluids in turbomachinery, centrifugal pumps and compressors, radial and axial flow turbines, axial flow compressors and pumps. The laboratory will consist of tests and design problems.

2 lectures, 3 laboratory hours a week.

Text: Principles of Turbomachinery by Shepherd.

M.E. 407b. **Control Theory:** Principles of control, control system elements, servo-mechanisms, analytical and graphical methods.

3 lectures a week, second semester (half course).

M.E. 410b. **Essay, Seminar:** A written essay is to be handed in by each student early in the second semester, the exact date to be specified by the Department. The thesis topic and outline must be approved by the Head of the Department before the thesis is started. It is advisable that the major portion of the work for this essay be done during the summer before the fourth year. The class hours shall be used for presentation of theses plus other seminar topics to be selected.

3 seminar hours a week, second semester (half course).

SEMESTER-HOUR EQUIVALENTS

The following list has been compiled for the convenience of evaluating committees in institutions which employ a credit system. For evaluation of subjects in the Faculty of Arts and Science, see p. —.

Engineering

ES100	5
ES200	5
ES202	4
ES300	5
ES301	5
ES303	5
ES304	5
ES311a	3
ES401	4
ES411	5
GE101	
GE102	
GE400a	2
ChE200	4
ChE300y	2
ChE301	7
ChE302	7
ChE401	6
ChE402	4
ChE403a	2
ChE404b	4
ChE410y	2
CE100	5
CE200y	1
CE201	8
CE300	6
CE302	4
CE303	5
CE304	5
CE400	6
CE401	
CE402	6
CE403	3
CE404	4
CE405	6
CE406b	2
CE410b	2
EE200a	3
EE201b	3
EE202b	3
EE203b	3
EE300	5
EE302	4
EE303b	3
EE304a	3
EE305	4
EE306	5
EE403	5
EE404	8
EE405	4
EE406b	3
EE407	5
EE408	4
EE410b	2
ME200	6
ME300a	4
ME301	6
ME303	5
ME401	6
ME402	6
ME403	6
ME404	6
ME405	6
ME406	6
ME407b	3
ME410b	3

THE FACULTY OF GRADUATE STUDIES

THE FACULTY OF GRADUATE STUDIES

Faculty Council

The Dean of Graduate Studies, **Chairman;** the President; the Executive Vice-President; the Registrar; the Dean of each Faculty and Director of each School offering a graduate program; one representative from each department of the University which offers graduate work; as follows:

Rev. C. P. Crowley, C.S.B., Ph.D., **Dean of Graduate Studies.**

Very Rev. E. C. LeBel, C.D., C.S.B., M.A., **President.**

Rev. P. J. M. Swan, C.S.B., Ph.D., **Executive Vice-President and Registrar.**

Rev. N. J. Ruth, C.S.B., M.A., **Dean of Arts and Science.**

F. A. DeMarco, Ph.D., **Dean of Applied Science.**

G. R. Horne, Ph.D., **Director of the School of Business Administration.**

Maurice Adelman, Ph.D., Professor and Chairman, Department of **Chemical Engineering.**

W. G. Benedict, Ph.D., Associate Professor of **Biology.**

L. L. Campbell, Ph.D., Assistant Professor of **Mathematics.**

Rev. R. C. Fehr, C.S.B., Ph.D., Assistant Professor of **Psychology.**

Rev. E. C. Garvey, C.S.B., Ph.D., Professor and Head, Department of **Philosophy.**

H. H. G. Jellinek, Ph.D., Professor and Vice-Chairman, Department of **Chemistry.**

Lucjan Krause, Ph.D., Associate Professor and Chairman, Department of **Physics.**

Mary J. Manley, Ph.D., Associate Professor of **English.**

Rev. D. J. Mulvihill, C.S.B., Ph.D., Professor and Head, Department of **History.**

W. G. Phillips, Ph.D., Professor and Head, Department of **Economics and Political Science.**

Officers of Instruction—Full time

(The year of first appointment to the University is given. "C" in brackets after name indicates the staff of Canterbury College; "E" the staff of Essex College; "R" the staff of Holy Redeemer College; "U" the staff of University College).

Maurice Adelman (E); B.A.Sc. (Toronto, 1937), M.A.Sc. (ibid., 1940), Ph.D. (ibid., 1946). Professor and Chairman, Department of Chemical Engineering—1956.

George Borys Babiy (E); B.Sc. (Manitoba, 1957), M.Sc. (ibid., 1960). Lecturer in Mechanical Engineering—1959.

Winfred Gerald Benedict (E); B.S.A. (Toronto, 1949), Ph.D. (ibid., 1952). Associate Professor of Biology—1957.

Robert Gordon Billinghurst (E); B.A.Sc. (Toronto, 1940), M.A.Sc. (ibid., 1949). Associate Professor of Chemical Engineering—1957.

Rev. Frank John Boland, C.S.B. (U); B.A. (Toronto, 1938), M.A. (Detroit, 1948), Ph.D. (Ottawa, 1955). Assistant Professor of History—1955.

John Maxwell Brownlie (E); B.A. (Western Ontario, 1949), M.B.A. (Michigan, 1950). Assistant Professor of Business Administration—1958.

Very Rev. Francis Leo Burns, C.S.B. (U); B.A. (Western, 1928), M.A. (Michigan, 1939), Ph.D. (ibid., 1947), Superior (1958). Associate Professor of Economics—1936.

Louis Lorne Campbell (E); B.Sc. (Manitoba, 1950), M.S. (Iowa State College, 1951), Ph.D. (Toronto, 1955). Assistant Professor of Mathematics—1958.

Vincent Casmere Chrypinski (U); M.L. (Catholic U. of Lublin (Poland), 1939), M.A. (Wayne, 1953), Ph.D. (Michigan, 1958). Assistant Professor of Political Science—1957.

William George Colborne (E); B.Sc. (Queen's, 1948), M.Sc. (ibid., 1950). Associate Professor and Chairman, Department of Mechanical Engineering—1958.

Rev. Cornelius Patrick Joseph Crowley, C.S.B. (U); B.A. (Toronto, 1936), M.A. (Michigan, 1945), Ph.D. (ibid., 1952). Dean of Graduate Studies, 1959. Professor and Head, Department of English—1944.

John Norbert Deck (U); B.A. (Western Ontario, 1946), M.A. (ibid., 1948). Lecturer in Philosophy—1957.

Frank A. DeMarco (E); B.A.Sc. (Toronto, 1942), M.A.Sc. (ibid., 1943), Ph.D. (ibid., 1951). Principal, Essex College, 1959. Dean of Applied Science, 1959. Professor of Chemistry—1946.

Robert Joseph Doyle (E); B.A. (Western Ontario, 1948), M.A. (ibid., 1950), M.S. (Michigan State, 1953). Associate Professor of Biology—1948.

Hermes Andrew Eliopoulos (E); B.Sc. (Salonika, Greece, 1946), M.Sc. (McGill, 1954), Ph.D. (Toronto, 1956). Assistant Professor of Mathematics—1956.

Zbigniew Marian Fallenbuchl (U); B.Sc. (London, 1951), M.A. (Montreal, 1957). Assistant Professor of Economics and Political Science—1959.

Rev. Donald Thomas Faught, C.S.B. (E); B.A. (Toronto, 1937), M.A. (Michigan, 1944). Associate Professor and Head, Department of Mathematics—1954.

Charles Fay (U); B.S. (St. Louis, 1948), M.A. (ibid., 1950), Ph.D. (ibid., 1956). Assistant Professor of Philosophy—1958.

Rev. Robert Charles Fehr, C.S.B. (U); B.A. (Toronto, 1943), M.A. (Detroit, 1949), Ph.D. (Fordham, 1958). Assistant Professor of Psychology—1951.

Harold Ross Fletcher (E); B.A.Sc. (Toronto, 1949), M.A.Sc. (ibid., 1957). Lecturer in Electrical Engineering—1958.

Patrick Francis Flood (U); B.A. (Western Ontario, 1939), M.A. (ibid., 1941). Assistant Professor of Philosophy—1945.

Rev. Edwin Charles Garvey, C.S.B. (U); B.A. (Toronto, 1928), M.A. (ibid., 1932), Ph.D. (ibid., 1937). Principal, University College, 1958. Professor and Head, Department of Philosophy—1937.

John Blake Gertz (E); B.S. (Detroit, 1940), M.B.A. (Ohio State, 1950). Assistant Professor of Business Administration—1957.

Alex William Gnyp (E); B.A.Sc. (Toronto, 1953), M.A.Sc. (ibid., 1954), Ph.D. (ibid., 1958). Assistant Professor of Chemical Engineering—1958.

Rev. Alexander John Grant, C.S.B. (E); B.A. (Toronto, 1933), M.A. (St. Bonaventure, 1944). Professor and Head, Department of Biology—1945.

Simon Green (E); Ph.D. (Vienna, 1932), Actuary Teacher's Dipl. (Uppsala, Sweden, 1943), Ph.D. (Pittsburgh, 1952). Associate Professor of Mathematics—1959.

Edwin Emile Habib (E); B.Sc. (Birmingham, 1955). Lecturer in Physics—1959.

Wilfred Hanson (E); B.Comm. (Saskatchewan, 1950), M.B.A. (Western Ontario, 1952). Lecturer in Business Administration—1958.

Henryk Pawel Herbich (E); Dipl. Ing. (Warsaw, 1921), D.Sc. (Eng.) (Edinburgh, 1943). Professor and Chairman, Department of Civil Engineering—1959.

Gilbert Richard Horne (E); B.A. (Western Ontario, 1931), M.A. (Michigan, 1936), Ph.D. (ibid., 1954). Professor and Director, School of Business Administration—1931.

Rev. Arthur Robert Howell, C.S.B. (E); B.Sc. (Saskatchewan, 1949), S.T.B. (St. Michael's (Toronto), 1957), M.A.Sc. (Toronto, 1959). Lecturer in Mechanical Engineering—1958.

Hanss H. G. Jellinek (E); Ph.D. (London, Imperial College, 1941), Ph.D. (Cambridge, 1945). Professor and Vice-Chairman, Department of Chemistry—1959.

Gabriel Klambauer (E); B.Sc. (1956), M.A. (Wayne State, 1959). Lecturer in Mathematics—1959.

Lucjan Krause (E); B.Sc. (London, England, 1951), M.A. (Toronto, 1953), Ph.D. (ibid., 1955), A.Inst.P. (1956). Associate Professor and Chairman, Department of Physics—1958.

Calvin Charles Kuehner (E); B.Sc. (Ohio State, 1949), M.Sc. (ibid., 1950), Ph.D. (ibid., 1953). Assistant Professor of Biology—1958.

James Jerome Leddy (E); B.S. (Detroit, 1951), Ph.D. (Wisconsin, 1955). Assistant Professor of Chemistry—1959.

Howard Douglas McCurdy (E); B.A. (Western Ontario, 1953), B.Sc. (1954), M.Sc. (Michigan State, 1955), Ph.D. (ibid., 1959). Lecturer in Biology—1959.

Rev. David Gordon Macdonald, C.S.B. (U); B.A. (Toronto, 1948), M.A. (Toronto, 1952). Lecturer in Classics—1958.

Ronald Edward MacDonald (E); B.A. (Toronto, 1949), M.A. (ibid., 1951), Ph.D. (ibid., 1957). Assistant Professor of Physics—1959.

Eugene Joseph McNamara (U); A.B. (DePaul, 1953), M.A. (ibid., 1955). Assistant Professor of English—1959.

Rev. John Alphonse Malone, C.S.B. (U); B.A. (Western Ontario, 1939), M.A. (Toronto, 1945), Ph.D. (Fordham, 1953). Associate Professor of Psychology—1959.

Mary J. Manley (U); B.A. (Western Ontario, 1913), M.A. (Yale, 1928), Ph.D. (ibid., 1933). Associate Professor of English—1952.

Sr. Marian Dolores, S.N.J.M. (U); B.A. (Marylhurst, 1937), M.A. (Loyola, Chicago, 1944), Ph.D. (ibid., 1947). Dean of Women, 1959. Principal, Holy Names College, 1959. Visiting Professor of Psychology—1959.

Rev. Daniel Joseph Mulvihill, C.S.B. (U); B.A. (Western Ontario, 1937), M.A. (Michigan, 1946), Ph.D. (ibid., 1954). Vice-President, Development, 1958. Professor and Head, Department of History—1942.

Rev. Edward Cecil Pappert, C.S.B. (U); B.A. (Toronto, 1938), M.A. (Detroit, 1944), Ph.D. (Ottawa, 1954). Director of Extension, 1958. Assistant Professor of English—1950.

Brother Roger Philip, F.S.C. (William James Overend), (U); B.A. (Toronto, 1917), M.A. (ibid., 1922), Ph.D. (Catholic U. of America, 1928). Professor and Head, Department of Psychology —1956.

William Gregory Phillips (U); B.A. (Toronto, 1944), M.A. (ibid., 1947), Ph.D. (ibid., 1953). Professor and Head, Department of Economics and Political Science—1950.

Stanley James Whitworth Price (E); B.A. (British Columbia, 1953), M.Sc. (ibid., 1955), Ph.D. (Edinburgh, 1958). Assistant Professor of Chemistry—1959.

Rev. Maurice Adrian Record, C.S.B. (U); B.A. (Western Ontario, 1935), M.A. (Toronto, 1949). Associate Professor of Psychology —1952.

Rev. Norbert Joseph Ruth, C.S.B. (U); B.A. (Toronto, 1932), M.A. (ibid., 1947). Dean of Arts and Science—1952.

Kenneth Gerald Rutherford (E); B.A. (Western Ontario, 1949), Ph.D. (Wayne State, 1954). Associate Professor of Chemistry—1958.

Alfred Arthur Smith (U); B.A. (Queen's, 1947), M.A. (ibid., 1948), Ph.D. (McGill, 1950). Assistant Professor of Psychology—1959.

John Francis Sullivan (U); B.S. (Detroit, 1940), M.A. (ibid., 1947), Ph.D. (Michigan, 1958). Assistant Professor of English—1958.

Conrad Marshall John Fisher Swan (U); B.A. (Western Ontario, 1949), M.A. (ibid., 1951), Ph.D. (Cambridge, 1956). Assistant Professor of History—1949.

Rev. Peter Julian Michael Swan, C.S.B. (U); B.A. (Toronto, 1938), M.A. (ibid., 1942), Ph.D. (ibid., 1946). Assistant Professor of Philosophy—1946.

Roger Joseph Thibert (E); B.A. (Western Ontario, 1951), M.S. (Detroit, 1954), Ph.D. (Wayne State, 1958). Assistant Professor of Chemistry—1953.

Chi Tien (E); B.S. (National Taiwan U., 1952), M.S. (Kansas State, 1954), Ph.D. (Northwestern, 1957). Research Associate—1959.

Walter LeRoy White, D.F.C. (U); B.A. (Western Ontario, 1951), M.A. (Toronto, 1952). Assistant Professor of Economics—1956.

Tze Sun Wu (E); B.S. (National Chiao-Tung (Shanghai), 1941), M.S. (Washington, 1949), Ph.D. (Illinois, 1952). Associate Professor of Civil Engineering—1957.

Elias Zakon (E); Mgr. Phil. (Stefan Batory U. (Wilno), 1934), Dr. jur. (ibid., 1939). Assistant Professor of Mathematics—1957.

Michael Zin (E); B.Comm. (1955), M.B.A. (Michigan, 1956). Assistant Professor of Business Administration—1956.

THE MASTER'S DEGREE

1. Admission requirements: A candidate for the Master's Degree must be a graduate of a recognized college or university with a good academic record (B standing or its equivalent) in his major subject. Graduates of this or other recognized colleges or universities may be accepted as candidates for the degree after they have presented to the Committee on Admissions for Graduate Studies official evidence of graduation and have satisfied the Head of the Department concerned as to their qualifications. Students lacking such qualifications may be admitted under such conditions as the Graduate Committee on Admissions may determine.

2. Period of Study: The duration of the course will be adjusted individually for each candidate. A minimum of one year in residence will be required of candidates who have graduated from Honours courses. For graduates of general courses and Honours courses in areas other than the graduate specialization desired, a minimum of two years will be required. The content of the first year, which will usually consist of undergraduate courses, will be determined in consultation with the Head of the Department concerned. If more than six hours a week are spent in teaching or other departmental duties, additional time will be required.

3. Course of Study: The choice of subjects must be approved by the Head of the Department in which the student is majoring and by the Dean of Graduate Studies. Each graduate student shall, moreover, complete satisfactorily a course in methodology.

Within one month after a candidate's registration, the Head of his Department shall appoint his committee, to consist of his chief adviser, as chairman, and two others (one of whom shall belong to a department other than the one in which the student is majoring). The Head of the Department will then report to the Faculty Council on the composition of each candidate's committee.

Copies of the candidate's prospectus (outlining the subject of the proposed research) shall be submitted to the Head of his Department and to the Faculty Council at least six months before he proposes to take his final examination.

If a candidate does not maintain a satisfactory standing in all his work, his committee may at any time recommend that he discontinue his course.

4. Language requirements: It is essential that the candidate for the Master's Degree in Arts or in Science have a reading knowledge of at least one language other than English. The language shall be chosen in consultation with the Head of the Department in which the student is majoring. The candidate must furnish evidence of such reading knowledge by passing an examination conducted by the language department concerned at the commencement of the student's graduate studies. If the nature of a candidate's research makes it desirable, a department may require him to show reading knowledge of a second foreign language.

5. Thesis: A thesis, incorporating the results of an investigation in the field of the major subject, is required of candidates for the M.Sc. degree in Biology, in Chemistry and in Physics, and of candidates for the M.A. degree who have chosen the first course of studies mentioned below.

The candidate, when requested, shall submit to his chief advisor from time to time portions of his thesis and a complete draft on a date specified by his advisor. He shall make final revisions demanded by his advisor or committee and place THREE typewritten copies of the completed thesis (FOUR copies for M.Sc. candidates) in the hands of his advisor or the chairman of his committee FOUR weeks before convocation. The members of the candidate's committee should sign the thesis, when approved, on a page immediately following the title page. He shall submit with his thesis three (or four) copies of an abstract of not more than three hundred words and three (or four) copies of a vita. The abstract will be bound with the thesis immediately following the certificate of approval; the vita at the end of the work. An additional abstract is required for national bibliographical purposes. The candidate should consult the University Librarian regarding its form.

The Head of the Department, in consultation with the chairman of the candidate's committee, may request that a thesis be read by an external examiner.

Candidates will be provided with definite instructions regarding approved methods of typewriting, bibliography, footnotes, etc. An acceptable format may be consulted in the University Library. The regulations of the Library as to binding, quality of paper, title page and margins must be fulfilled. Arrangements for binding copies of the thesis shall be made by the candidate with the Librarian and the fee of $4.00 a copy for binding paid to the Library. If the candidate wishes to have an additional copy bound for his own use, the Librarian will make the necessary arrangements on the payment of an additional $4.00.

If approved, the thesis shall become the property of the University. Two copies of the thesis, the original and the first carbon copy, will be filed in the University Library and one copy (or two copies) in the Department.

The regulations contained herein concerning the thesis apply, **mutatis mutandis,** to the major paper required of candidates.

6. Examinations: A department may require oral or written examinations or both and may decide in the case of the individual candidate the type of examination required. A department may, at its discretion, require a comprehensive examination.

Notice of the type of examination shall be given by the Head of the Department to the candidate at least two months before the date on which the examination is to be held.

Each candidate for the Master's degree shall be required to appear before the Committee on Graduate Studies for an oral examination on his thesis, or in cases where no thesis has been written, on the candidate's field. The examiners of the thesis and the oral shall be appointed by the Committee on Graduate Studies on the recommendation of the Head of the Department concerned. There will be at least three examiners, of whom at least one will, when practicable, be outside the department concerned. The Chairman of the examiners will be appointed by the Committee on Graduate Studies. The Supervisor or chief advisor will, in addition, be present at the oral examination but will not question the candidate except with the permission of the Chairman. A candidate must obtain a standing of at least 66% on his thesis as well as on all written and oral examinations in his major subjects.

The Master's degree with Honours may be granted to a candidate on the recommendation of the committee in charge of the candidate's research and with the approval of the Committee on Graduate Studies. It will be granted not on the basis of any specific percentage but only in recognition of outstanding achievement.

7. Graduation: In order to allow the necessary time for the printing of the diploma and the Convocation program, the candidate's completed work must be approved by the Committee on Graduate Studies and his thesis accepted by the Library two weeks before Convocation.

8. Fees: Before a candidate is eligible for his degree he must have paid his complete tuition fee, and the fee of $4.00 a copy to the Library for the binding of his thesis.

9. Departmental Regulations: The various departments of the University may enforce additional regulations which have been approved by the Committee on Graduate Studies.

MASTER OF ARTS

Department of Economics and Political Science

Professor:	W. G. Phillips, Ph.D.
Associate Professor: (part-time)	Very Rev. F. L. Burns, C.S.B., Ph.D.
Assistant Professors:	V. C. Chrypinski, Ph.D. Z. M. Fallenbuchl, M.A. W. L. White, M.A.

At the graduate level students will be expected to specialize in either Economics or Political Science. With the consent of the Department, however, a student specializing in either one of these fields may be permitted to take one graduate course in the other. At present the Department is offering a complete program at the Master's level in Economics only.

The graduate credit courses do not necessarily cover all of the material required for the Comprehensive Oral Examination. In addition all candidates are expected to prepare themselves, under the direction of a member of the Department, for the examination; and each will follow a course of reading recommended by his chief advisor, taking into consideration the subject of his thesis and his individual standing. Students who are required to take the "preparatory year" will start these studies in that year.

Particular requirements:

(a) A thesis on some research subject approved by the Department.

(b) A comprehensive oral examination in Economic Theory (including History of Economic Thought, Microeconomic and Macroeconomic Theory), and two other fields chosen from the following: Economic Policy, Economic History, Money and Banking, Labour Economics, International Economics, Public Finance, Economic Systems.

(c) The completion of two or three graduate credit courses each with at least 66% standing. The number of courses must be decided in consultation with the Department.

(d) For language requirement, see p. 187.

I. Economics

501. **Macroeconomics:** Neo-Classical, Marxist, Schumpeterian, Swedish, Keynesian and Post-Keynesian macroeconomic theories; determinants of the general levels of production, income, employment and prices; economic growth and fluctuations; conditions of economic progress; policies for economic growth and stability in mature and underdeveloped countries. (Prerequisite: Economics 306a and 306b). Professor Fallenbuchl.
2 hours a week (half year lectures, half year seminars).

510. **International Economics:** The theory of international economic policy; the interrelation between internal and external balance; economic growth and the balance of payments; international economic institutions; international aspects of economic development and anti-cyclical policies. (Prerequisite: Economics 301). Professor Fallenbuchl. (Not offered in 1960-61).
2 hours a week (half year lectures, half year seminars).

520. **Labour Economics and Collective Bargaining:** The economic, social and legal background of bargaining in selected industries. (Prerequisite: Economics 336). Professor Phillips.
2 hours a week (seminar).

530. **Economic Concentration:** An advanced study of the theory and institutional development of monopoly and monopolistic competition and government regulatory policies. (Prerequisite: Economics 221). Professor Phillips.
2 hours a week (seminar).

II. Political Science

501. **Modern Political Thought:** A critical study of selected theories which have influenced modern political philosophy. (Prerequisite: Political Science 452). Professor Chrypinski. (Not offered in 1960-61).
2 hours a week (seminar).

510. **Problems in Canadian Government:** The development of Canadian autonomy, and its effect on the various institutions of government. (Prerequisite: Political Science 220). Professor White.
2 hours a week (seminar).

Department of English

Professor: Rev. C. P. J. Crowley, C.S.B., Ph.D.,
Head of the Department.

Associate Professor: Mary J. Manley, Ph.D.

Assistant Professors: John F. Sullivan, Ph.D.
Rev. E. C. Pappert, C.S.B., Ph.D.
Eugene J. McNamara, M.A.

Course of Study

Either: (i) At least two and not more than three graduate courses, one of which may be in a cognate field, plus a thesis;
Or: (ii) Three graduate courses, one of which must be a seminar course including a major paper upon which there shall be an oral examination.

500—Thesis: Topic, director, and value to be approved by the Head of the Department.
501—Tutorial: Instructors to be assigned.
560—Philosophical Principles of Literary Criticism.
561—Literature of the Renaissance (Non-Dramatic).
566—Renaissance Drama.
580—The Eighteenth Century.
585—The Romantic Period.
591—The Victorian Period.
595—American Literature.
597—Literature of Canada.
599—Recent Literature.

Department of History

Professor: Rev. D. J. Mulvihill, C.S.B., Ph.D., Head of the Department.

Assistant Professors: Rev. F. J. Boland, C.S.B., Ph.D.
Conrad M. J. F. Swan, Ph.D.

Course of Study

Either: (i) At least two and not more than three graduate courses, one of which may be in a cognate field, plus a thesis;
Or: (ii) Three graduate courses, one of which must be a seminar course including a major paper upon which there shall be an oral examination.

500—Thesis: Topic, director and value to be approved by the Head of the Department.
510—Historical Method, Historiography and Bibliography.
520—History of Canada, 1867-1945.
530—British political and social thought from 1832-1914. A seminar and selected reading course.

Department of Philosophy

Professor: Rev. E. C. Garvey, C.S.B., Ph.D., Head of Department.
Assistant Professors: Rev. P. J. M. Swan, C.S.B., Ph.D.
Charles Fay, Ph.D.
Patrick Francis Flood, M.A.
Lecturers: John N. Deck, M.A.
Rev. G. MacDonald, C.S.B., M.A.

Course of Study

Either: (i) At least two and not more than three graduate courses, one of which may be in a cognate field, plus a thesis;

Or: (ii) Three graduate courses, one of which must be a seminar course including a major paper upon which there shall be an oral examination.

500—Thesis: Topic, director and value to be approved by the Head of the Department.
551—Problems in Metaphysics.
552—Texts of St. Thomas Aquinas.
553—History of Ancient Western Philosophy.
554—Problems in History of Mediaeval Philosophy.
555—Problems in History of Modern Thought.
556—Philosophy of Education.
557—Problems in Social Philosophy.
558—Problems in Practical Philosophy.

Department of Psychology

Professor: Brother R. Philip, F.S.C., Ph.D., Head of Department.
Associate Professors: Rev. J. A. Malone, C.S.B., Ph.D.
Rev. M. A. Record, C.S.B., M.A.
Assistant Professors: Rev. R. C. Fehr, C.S.B., Ph.D.
A. A. Smith, Ph.D.
Visiting Professor: Sister Marian Dolores, S.N.J.M., Ph.D.

The course of study will be at least two and not more than three graduate credit courses, one of which may be in a cognate field, and a thesis.

500—Thesis.
510—Advanced Experimental Psychology.
520—Research Methods in Psychology.
530—Systematic Psychology.
540—Psychoanalysis and Related Fields.
550—Advanced Projective Techniques.
560—Counselling and Psychotherapy.
570—Clinical Practicum.

MASTER OF BUSINESS ADMINISTRATION

School of Business Administration

Professor:	G. R. Horne, B.A., M.A., Ph.D. (Director).
Assistant Professors:	J. M. Brownlie, B.A., M.B.A. J. B. Gertz, B.S., M.B.A. Michael Zin, B.Comm., M.B.A.
Lecturer:	Wilfred Hanson, B.Comm., M.B.A.

The purpose of the Master of Business Administration program is to provide broad post-graduate studies in the general field of business administration. The graduate student is afforded the opportunity to expand his knowledge of the principal phases of business administration, and thereby be prepared for responsible performance in private business and public service careers.

The general principles of management are emphasized throughout the program; this approach is supplemented by the use of the case method of instruction to bring reality to the studies.

Particular admission requirements:

1. In addition to the admission requirements listed above in (1), p. 186, an applicant for admission to the M.B.A. course who has not completed a formal course in the principles of economics must make up the deficiency.

2. For applicants possessing the Bachelor of Commerce General Degree, or equivalent, a make-up year will be required in which the student will take six full courses, as approved by the Director of the School of Business Administration. No more than four of these may be in Business Administration subjects.

3. Graduates with the Bachelor of Commerce Honours (4 years from Grade XIII) from this or other universities, with second class standing, who have done satisfactory work in all the subjects included in the first year of the Master's program as indicated below, are eligible to complete the degree in one year.

4. Graduates who have done work elsewhere comparable to that included in the first year of the Master's program here will be eligible to enter the second year.

5. A student with a university degree, who has completed the six courses leading to the Certificate in Business Administration (see p. 81) at this University may receive credit for up to five of the six courses required for the first year of the M.B.A. program.

Students are admitted to the second year if they have secured an average of second class honours in the required subjects of the first year, or have completed the Diploma Course in Management with second class honours.

Evening Students. Provision is made for candidates in full-time employment to spread the work for the degree over a number of years. There is no time limit for the work of the first year but the work of the second year must be covered in not more than four consecutive years. Only two subjects may be taken concurrently by part-time students.

First Year

Bus. Ad. 489—Accounting
Bus. Ad. 490—Statistical Methods in Business
Bus. Ad. 491—Marketing
Bus. Ad. 493—Corporation Finance
Bus. Ad. 494—Production
Bus. Ad. 496—Introduction to Administration

Second Year

Bus. Ad. 515—Business Policy
or 554—Administrative Problems

Bus. Ad. 560—Accounting (Administrative)

And three courses chosen from:

Bus. Ad. 515—Business Policy
Bus. Ad. 546—Personnel Administration
Bus. Ad. 551—Marketing Management
Bus. Ad. 553—Business Finance
Bus. Ad. 554—Administrative Problems
Bus. Ad. 555—Statistical Analysis
Bus. Ad. 563—Investments
Bus. Ad. 564—Production Management
Bus. Ad. 566—Human Relations in the Industrial Community
Bus. Ad. 571—Public Administration

One subject (for which the student must have the undergraduate qualifications) from other graduate courses, if approved by the Director of the School of Business Administration and the Department concerned.

In addition to the subjects listed, the student is required to prepare a dissertation on some research subject.

DIPLOMA COURSE IN MANAGEMENT

This is a one-year course for university graduates who have obtained a degree other than the Bachelor of Commerce or equivalent; the program is intended for persons who have not majored in Business Administration in their undergraduate programs. The following are the prescribed courses:

Bus. Ad. 489 (Accounting)
Bus. Ad. 490 (Statistical Methods in Business)
Bus. Ad. 491 (Marketing)
Bus. Ad. 493 (Corporation Finance)
Bus. Ad. 494 (Production)
Bus. Ad. 496 (Introduction to Administration)

An overall "C" average in the six courses is necessary to obtain the Diploma. A student who has not completed a formal course in the principles of economics must make up the deficiency. A student completing the above courses with a "B" average may be admitted to the second year of the M.B.A. program.

489. **Accounting:** Accounting concepts and techniques as tools for the administration of the economic activity of the business enterprise.
3 hours a week.

490. **Statistical Methods in Business:** The traditional topics of descriptive statistics: frequency distributions, measures of location and variation, correlation, index numbers, and time series. The newer topics of statistical inference: theoretical distributions, sampling distributions, problems of estimation, tests of hypotheses and problems of sampling.
3 hours a week.

491. **Marketing:** A study of the basic considerations affecting the marketing of goods and services; marketing principles and practices.
3 hours a week.

493. **Corporation Finance:** A basic course in business finance. Taught with emphasis on analysis rather than description with the object of demonstrating principles.
3 hours a week.

494. **Production:** The problems and methods of analysis applicable to the manufacturing function in modern enterprise.
3 hours a week.

496. **Introduction to Administration:** Theories and principles of administration and their influence on the modern business organization.
3 hours a week.

MASTER OF SCIENCE

Department of Biology

Professor: Rev. A. J. Grant, C.S.B., M.A., Head of Department.

Associate Professors: W. G. Benedict, Ph.D.
R. J. Doyle, M.A., M.S.

Assistant Professor: C. C. Kuehner, Ph.D.

Lecturer: H. D. McCurdy, Ph.D.

The course of study shall be three full graduate courses and a thesis.

500. **Thesis.**

536. **Microbial Physiology:** An intermediate course in microbial physiology consisting of lectures and laboratory.
2 lectures and 4 laboratory hours per week (full course).

538. **Microbial Genetics:** An advanced course in genetics of fungi, bacteria and protozoa.
2 lectures and 3 laboratory hours per week (full course).

539a. **Biostatistics:** Elementary probability, analysis of distribution, the Normal, Poisson and Probability distributions, sampling, tests of significance, curve-fitting and statistical design applied to biological data.
2 lectures per week, one semester (half course).

550y. **Seminar:** Presentation and discussion of brief reviews of current biological literature.
1 hour per week (half course).

Department of Chemistry

Professors:	H. H. G. Jellinek, D.I.C., Ph.D., Vice-Chairman of Department F. A. DeMarco, M.A.Sc., Ph.D.
Associate Professor:	K. G. Rutherford, B.A., Ph.D.
Assistant Professors:	J. J. Leddy, B.Sc., Ph.D. S. J. W. Price, M.Sc., Ph.D. R. J. Thibert, M.Sc., Ph.D.

In addition to the general requirements and stipulations listed on pages 186 ff. for the Master's degree, the following course requirements must be met by all candidates; the successful completion of at least three and not more than five full courses, one of which must be in a cognate field. A seminar must be taken each year the candidate is registered, and original research work must be pursued and embodied in a thesis. All courses will be selected in consultation with the Department Head to suit the candidate's major field of study.

Not all of the courses listed will necessarily be offered in any one year.

I. Analytical Chemistry

532a. **Advanced Analytical Chemistry:** The analysis of alloys, minerals and ores employing titrimetric, gravimetric and instrumental methods. (Prerequisite: Chemistry 332).

2 lectures, 3 laboratory hours a week; one semester.

532b. **Radiochemistry:** Properties and safe handling of radioactive substances. Experiments dealing with the identification and use of various radioactive isotopes and the application of tracer techniques to various fields of chemistry. (Prerequisite: Chemistry 235 and 344).

2 lectures, 3 laboratory hours a week; one semester.

542. **Instrumental Analysis:** Ultraviolet, visible and infrared spectroscopy; polarography, colorimetry, conductometric titrations, coulometric titrations, electroanalytical methods. (Prerequisite: Chemistry 332).

2 lectures, 3 laboratory hours a week.

552a. **Theory of Analytical Chemistry:** Chromatography, ion exchange, non-aqueous titrations, applications of organic reagents to analytical chemistry, organic functional group analysis. (Prerequisite: Chemistry 332).

2 lectures a week; one semester.

552b. **Special Topics in Analytical Chemistry:** Frontiers in the field of analytical chemistry. (Prerequisite: Chemistry 542 and 552a).

2 lectures a week; one semester.

II. Biochemistry

536. **General Biochemistry:** An introductory course in Biochemistry. (Prerequisite: Chemistry 333).

2 lectures, 3 laboratory hours a week.

546a. **Intermediate Biochemistry:** A study of the enzymes. (Prerequisite: Chemistry 536 or equivalent).

3 lectures a week; one semester.

546b. **Intermediate Biochemistry:** A study of the hormones. (Prerequisite: Chemistry 536 or equivalent).

3 lectures a week; one semester.

556. **Advanced Biochemistry I:** Intermediary metabolism. The study of the metabolism of carbohydrates, lipids, proteins, porphyrins, purines, pyrimidines, minerals; photosynthesis; bioenergetics; mutation; comparative aspects of biochemistry. (Prerequisite: Chemistry 546a or equivalent).

3 lectures a week.

566. **Advanced Biochemistry II:** Biophysical chemistry. Application of the principles of Physical Chemistry to biological systems including: use of radioactive isotopes; effect of ionizing radiations on living matter; bioluminescence; thermodynamics and bioenergetics; kinetics in biochemistry; surface phenomena in biology; biocolloids and biopolymers; electrochemistry in biology. (Prerequisite: Chemistry 434 or equivalent).

3 lectures a week.

576. **Advanced Biochemistry III:** Clinical Biochemistry. A consideration of the biochemistry of disease. (Prerequisite: Chemistry 546a and 546b).

3 lectures, 3 laboratory hours a week.

III. Inorganic Chemistry

535a. **Chemistry of the More Familiar Elements:** Descriptive chemistry of the more familiar elements and their compounds, with emphasis on the less familiar chemistry thereof, including a discussion of the economic aspects of inorganic chemistry. (Prerequisite: Chemistry 335).

2 lectures a week; one semester.

535b. **Chemistry of the Less Familiar Elements:** Descriptive chemistry of the less familiar elements and their compounds, with emphasis on coordination chemistry. (Prerequisite: Chemistry 335).
2 lectures a week; one semester.

545. **Theoretical Inorganic Chemistry:** Theoretical considerations of the periodic relationships and reactivities of the elements and their compounds, particularly in the light of recent structural, thermodynamic and kinetic data relating to aqueous and non-aqueous solutions, dry state reactions and high temperature chemistry. (Prerequisite: Chemistry 335).
2 lectures a week.

555. **Selected Topics in Inorganic Chemistry:** Topics to be arranged by the instructor based primarily upon new developments in the field as gathered from a study of the current research literature. (Prerequisite: Chemistry 535a and 535b).
2 lectures a week.

IV. Organic Chemistry

533. **Physical Organic Chemistry:** Applications of thermodynamics and kinetics to organic reaction mechanisms. Mass law, ionic strength and salt effects as well as polar and steric effects are discussed from the physiochemical standpoint. (Prerequisite: Chemistry 333 and 434).
2 lectures a week.

543. **Synthetic Organic Chemistry:** A detailed study of organic reactions with particular reference to multistage syntheses. Stereospecific synthesis. (Prerequisite: Chemistry 333).
2 lectures a week.

553a. **Organic Chemistry of High Polymers:** Condensation and addition polymers. Stereospecific polymerization. (Prerequisite: Chemistry 333).
2 lectures a week; one semester.

553b. **Heterocyclic Compounds:** The chemistry of heterocyclic organic compounds. (Prerequisite: Chemistry 333).
2 lectures a week; one semester.

563. **Natural Products:** The organic chemistry of the steroids, terpenes, vitamins and drugs. (Prerequisite: Chemistry 543).
2 lectures a week.

573a. **Special Topics in Organic Chemistry:** Selected topics of recent interest in the field. (Prerequisite: consent of instructor).
2 lectures a week; one semester.

V. Physical Chemistry

544. **Physical Chemistry of High Polymers:** Kinetics of condensation and addition polymerization. Physical properties. Degradation of high polymers. (Prerequisite: Chemistry 444).
2 lectures a week.

554. **Theoretical Chemistry:** Statistical and quantum mechanics. Atomic and molecular spectra. (Prerequisite: Chemistry 445).
2 lectures a week.

564. **Gas Kinetics:** Theoretical and experimental aspects of gas phase reactions. (Prerequisite: Chemistry 444).
2 lectures a week.

574. **Special Topics in Physical Chemistry:** Selected topics of current interest. (Prerequisite: consent of instructor).
2 lectures a week.

VI. 500. Master's Thesis

VII. 550. Seminar

VIII. Doctoral Thesis

Department of Mathematics

Associate Professor:	Rev. D. T. Faught, C.S.B., M.A., Head of Department. S. Green, Ph.D.
Assistant Professors:	L. L. Campbell M.S., Ph.D. H. A. Eliopoulos, M.Sc., Ph.D. E. Zakon, Dr.Jur.
Lecturer:	G. Klambauer, M.A.

The course of study shall be either four graduate courses or three graduate courses and a major paper, upon which there shall be an oral examination.

I. Pure Mathematics

501—Advanced Modern Algebra.
502—Selected Topics from Set Theory and Point Set Theory.
503—Group Representations and Spinor Calculus.
504—Mathematical Logic.
505—Advanced Geometry.
506—Introduction to the Differential Geometry in the Large.
507—Functions of a Real Variable.
508—Theory of Integration.
509—Integral Transforms.
510—Partial Differential Equations.
511—Fourier Analysis.

II. Applied Mathematics

550—Advanced Quantum Mechanics and Quantum Field Theory.

551—Group Theory and Quantum Mechanics.

552—Unified Field Theories.

553—Relativistic Celestial Mechanics and Cosmology.

554—Random Noise Theory.

555—Information Theory.

556—Advanced Electromagnetic Theory.

557—Hydro- and Aerodynamics.

558—Mathematical Theory of Elasticity.

559—Equations of Mathematical Physics.

560—Rheology

561—Numerical Analysis.

Department of Physics

Associate Professor:	L. Krause, Ph.D., A.Inst. P., Chairman of Department.
Assistant Professor:	R. E. MacDonald, Ph.D.
Lecturer:	E. Habib, B.Sc.

The course of study shall be at least two and not more than three graduate courses and a thesis. One of the two courses may be selected from among undergraduate or graduate courses in a cognate field.

500—Thesis.

526—Molecular Physics and Spectroscopy.

550—Introductory Quantum Mechanics.

566—Solid State Physics.

567—Nuclear Physics.

MASTER OF APPLIED SCIENCE

Professors: M. Adelman, Ph.D., Chairman of Chemical Engineering.

W. G. Colborne, M.Sc., Chairman of Mechanical Engineering.

H. P. Herbich, D.Sc., Chairman of Civil Engineering.

Associate Professors: R. G. Billinghurst, M.A.Sc., Chemical Engineering.

T. S. Wu, Ph.D., Civil Engineering.

Assistant Professor: A. W. Gnyp, Ph. D., Chemical Engineering.

Lecturers: G. Babiy, M.Sc., M.E., Mechanical Engineering.

H. R. Fletcher, M.A.Sc., Electrical Engineering.

Rev. A. R. Howell, C.S.B., M.A.Sc., Mechanical Engineering.

Research Associate: C. Tien, Ph.D., Chemical Engineering.

1. Particular Requirements

A candidate for the degree of Master of Applied Science shall hold the degree of Bachelor of Applied Science of this University or an equivalent degree in Applied Science or Engineering.

An applicant having a Bachelor's degree in Science or Applied Math may be admitted as a candidate on the recommendation of the Department concerned and subject to the approval of the Faculty of Graduate Studies.

2. Period of Study

A minimum of one year in residence will be required of all candidates. No candidate may be registered for the M.A.Sc. degree for more than eight years.

3. Course of Study

Candidates will be required to complete a minimum of six courses, including the following: at least two courses in the major field of study, at least one course in applied mathematics, and a thesis equivalent in value to at least two courses. The thesis may be replaced by an equivalent amount of course work at the discretion of the Department involved, in which case an essay and/or a comprehensive examination will be required.

All the following courses will not necessarily be given the same year.

Engineering Sciences

E.S. 501. **Stress Analysis:** Bending of curved beams and beams on elastic foundation; torsion; stress and strain in two dimensions; theory of plates and membrane stresses in shells; elastic instability of beams and plates; mechanical properties of materials.
2 hours a week.

E.S. 502. **Experimental Stress Analysis:** Review of plane stress-strain relationships; mechanical and electrical resistance strain-measuring techniques with applications to strain rosettes; use of brittle coatings; photoelasticity and photostress techniques with applications. 2 hours a week.

Chemical Engineering

Ch.E. 501. **Chemical Engineering Thermodynamics:** An advanced study of the application of thermodynamic principles to chemical engineering practice, with emphasis on multicomponent systems. Special emphasis on prediction of thermodynamic properties from theoretical and empirical correlations.
2 hours a week.

Ch.E. 502. **Chemical Engineering Kinetics:** An advanced study of the application of kinetic principles to chemical engineering practice. Catalysed and uncatalysed homogeneous and heterogeneous systems are discussed.
2 hours a week.

Ch.E. 503. **Advanced Unit Operations:** Interphase diffusion, two film theory and penetration theory, absorption column design, equilibrium stage operations including extraction and distillation, plate efficiency and multicomponent distillation will be discussed.
2 hours a week.

Ch.E. 504. **Heat Transfer:** Steady and transient state conduction, numerical and analogue methods, Stephan problems, approximate solution for cases with variable physical properties, equation of non-isothermal viscuous flow, laminar convection heat transfer, Groetz solution, turbulent heat transfer, analogy between momentum and heat transfer, heat transfer involving change of phase and heat transfer for non-Newtonian fluid.
2 hours a week.

Civil Engineering

C.E. 501. **Advanced Theory of Structures:** Basic concepts and theorems used in the analysis of statically indeterminate structures; stress analysis and influence lines for continuous beams, frames, arches, and trusses; virtual work, method of least work, slope deflection, moment distribution and column analogy.
2 hours a week.

C.E. 502. **Plastic Analysis and Design of Steel Structures:** Ductility and strain hardening of structural materials; moment-rotation characteristics, collapse mechanism; plastic analysis of beams, frames and estimates of deflections; design considerations.
2 hours a week.

C.E. 503. **Water Power:** Stream flow and water power estimates; storage problems; analysis, design and selection of water power structures and equipment; types and purposes of dams and weirs; turbine analysis; transmission lines; cost and value of water power; typical problems will be studied.
2 hours a week.

C.E. 504. **Advanced Hydromechanics:** Theory of uniform and varied flow in open channels; theory of the use of models in design; conditions for similarity in the case of hydraulic structures; elastic structures, aircraft and waves.
2 hours a week.

Electrical Engineering

E.E. 501. **Advanced Electromagnetic Field Theory:** Theory and solution of boundary value problems using vector calculus and other mathematical functions as tools of analysis. Maxwell's equations, waves propagation of energy.
2 hours a week.

E.E. 502. **Advanced A.C. Machinery:** Analysis of performance of power machinery. Transient conditions. Power systems analysis.
2 hours a week.

E.E. 503. **Digital Computers:** Study of computer components, input, output devices. Logic of series and parallel type computers.
2 hours a week.

E.E. 504. **Transistor Theory:** Theory and application of semiconductor devices. Study of p-n junction diode, p-n-p and n-p-n junction transistors, tunnel diodes. Solid state theory, hole-electron generation. Transistor circuits.
2 hours a week.

Mechanical Engineering

M.E. 501. **Advanced Heat Transfer:** A graduate course covering the following topics: steady and unsteady state conduction, convection heat transfer, radiation, analog methods, condensing and boiling heat transfer, heat exchanger design.
2 hours a week.

M.E. 502. **Advanced Fluid Mechanics**
2 hours a week.

M.E. 503. **Mechanics of Vibrations**
2 hours a week.

THE DOCTOR'S DEGREE

Department of Chemistry

1. Admission Requirements

A candidate for the degree of Doctor of Philosophy in Chemistry must be a graduate of a recognized College or University with at least an Honours degree or equivalent in the field of chemistry. He must present official evidence of satisfactory academic standing to the Admissions Committee of the Faculty of Graduate Studies and the Department Head before he can be accepted by the University.

2. Period of Study

Normally a minimum of three years' full-time study is required from the Honours degree or equivalent, with at least one year spent in residence, and a minimum of two years from the Master's degree, also with at least one year in residence. No more than seven years should elapse before completion of the Ph.D. course.

3. Course Work

Candidates for the Ph.D. degree must successfully complete (B average) the following minimum course work:

(a) Three full graduate courses in the major field.
(b) Two full graduate chemistry courses outside the major field.
(c) Two full courses in a cognate field or fields.
(d) Seminar, to be taken each year the candidate is registered.

No candidate may elect to take more than ten courses, without the consent of the major advisor.

Any candidate who fails to maintain satisfactory standing in all course and thesis work may be asked to withdraw.

4. Doctoral Committee:

Within one month after a candidate's registration, the Head of the Department will, in consultation with the Dean of the Council of the Faculty of Graduate Studies, assign his doctoral committee. This committee will consist of six members, three of whom are to be chosen from the Chemistry Department (including the chief advisor), and three from outside the Department (two of whom should be from a cognate field), being appointed by the Dean of the Faculty of Graduate Studies. One of the latter three committee members will be appointed by the chairman to act as moderator of the thesis oral examination and of any meeting called by the Department Head to review a candidate's progress.

5. **Language Requirements:**

A candidate will be expected to demonstrate by written examination a reading knowledge of

(a) German

(b) another language as approved by the Department Head.

The language examinations will be offered annually in conjunction with the Language Department and must be successfully passed before admittance to the Doctoral Examination.

6. **Thesis:**

A thesis embodying the results of an original investigation in the field of the major subject is required of candidates for the Ph.D. degree.

The candidate, when requested, shall submit to his chief advisor from time to time portions of his thesis and a complete draft on a date specified by his advisor or committee, and place four typewritten copies of the completed thesis in the hands of his advisor six weeks before convocation. The members of the candidate's committee must sign the thesis, when approved, on a page immediately following the title page. The candidate shall submit with his thesis four copies of an abstract of no more than 500 words and four copies of a vita. The abstract will be bound with the thesis immediately following the certificate of approval and the vita at the end of the thesis. An additional abstract is required for national bibliographical purposes. The candidate should consult the University Librarian as to the format of the thesis. Rules governing binding, quality of paper and property of thesis can be found on page 187.

7. **Examinations:**

In addition to language examinations and course work, all candidates must meet the following additional requirements:

(a) A reasonable mastery of the fundamentals of the major fields of chemistry, tested by a written comprehensive examination to be completed within one year after the student is admitted to the graduate program.

(b) A reasonable mastery of the field of specialization chosen, tested by a Doctoral Written Examination given normally at the end of the second year of graduate study.

(c) The passing of a final oral examination in defence of the thesis. An examiner from outside the institution chosen by the candidate's major advisor, may be present at the thesis defence at the discretion of the Department Head.

THE FACULTY OF THEOLOGY

THE FACULTY OF THEOLOGY

Faculty Council

The President; the Executive Vice-President; the Dean of Theology; the Principal of Holy Redeemer College; two persons appointed by the President; the Heads of Department as follows:

Rev. E. J. Crowley, C.Ss.R., B.A., S.T.L., S.S.L., **Sacred Scripture.**

Rev. D. L. Egan, C.Ss.R., S.T.L., **Church History.**

Rev. T. I. Kelly, C.Ss.R., S.T.L., **Pastoral Theology** (Sacred Eloquence, Liturgy).

Rev. L. C. McAulay, C.Ss.R., B.A., J.C.L., **Canon Law.**

Very Rev. L. G. Owens, C.Ss.R., S.T.L., **Dogmatic Theology** (Spiritual Theology).

Rev. A. J. Thomas, C.Ss.R., J.C.D., **Moral Theology.**

Officers of Instruction

Rev. Edward J. Crowley, C.Ss.R.; B.A. (St. Joseph's, N.B., 1941), S.T.L. (Catholic U. of America, 1948), S.S.L. (Pontifical Biblical Inst., 1951). Assistant Professor and Head, Department of Sacred Scripture—1957.

Rev. D'Arcy L. Egan, C.Ss.R.; S.T.L. (Catholic U. of America, 1945). Associate Professor and Head, Department of Church History—1957.

Rev. Thomas Irving Kelly, C.Ss.R.; S.T.L. (Catholic U. of America, 1957). Lecturer and Head, Department of Pastoral Theology—1959.

Rev. Louis Clark McAulay, C.Ss.R.; B.A. (St. Dunstan's, 1947), J.C.L. (Lateran U., Rome, 1956). Lecturer and Head, Department of Canon Law—1959.

Rev. Joseph McCormick, C.Ss.R.; B.A. (Western Ontario, 1947), M.A. (ibid., 1949). Assistant Professor of Church History —1957.

Rev. Louis Gerard Owens, C.Ss.R.; S.T.L. (Angelicum, Rome, 1939). Professor and Head, Department of Dogmatic Theology—1957.

Rev. Raymond D. Powers, C.Ss.R.; M.A. (Catholic U. of America, 1940). Assistant Professor of Pastoral Theology—1957.

Rev. Alphonsus Joseph Thomas, C.Ss.R.; J.C.D. (Laval, 1948). Assistant Professor and Head, Department of Moral Theology —1959.

Admission requirements: A Bachelor's degree conferred upon the completion of a course approved by the Faculty Council.

Course of study:

Canon Law 10, and 2 other courses;
Church History 10 or 20;
Dogmatic Theology, 3 courses;
Liturgy 10a and 20a;
Moral Theology 10, and 2 other courses;
Pastoral Theology, 1 full course;
Sacred Eloquence, 1 full course;
Sacred Scripture 10a, and 3 other courses.

DETAILS OF SUBJECTS

Canon Law

10. **Definition and Classifications of Canon Law.** The science of Canon Law, its contents, significance, sources and History. The First Book of the Code.
3 hours a week.

20. **The Third Book of the Code.** Marriage legislation; sacred places; divine worship.
3 hours a week.

30. **The Second Book of the Code:** Territorial division of the Church; the ecclesiastical hierarchy from the Supreme Pontiff to Bishops; Bishops and the Government of dioceses; pastors; parochial vicars; rectors of churches. Legislation regarding religious, societies of common life, secular institutes, and the laity.
3 hours a week.

40. **The Fourth Book of the Code:** General notions regarding the procedural law of the Church, covering ordinary trials, especially marriage trials; procedure in beatification and canonization; procedure in cases decided administratively. The Fifth Book of the Code: Ecclesiastical crimes and penalties in general; medicinal penalties; vindictive penalties; penalties for certain particular crimes.
3 hours a week.

50a. **The Privileges of the Congregation of the Most Holy Redeemer:** Canonical notion of a privilege; history of the privileges granted to the Congregation; interpretation of present privileges.
5 hours a week for six weeks.

Church History

10. **Selected Questions from the Ancient and Mediaeval Periods:** The Church and the Jews; the Church and the Empire; the Church and the barbarians; the beginnings of monasticism. The Church and feudalism; the reform movement; lay investiture; Gregory VII and Boniface VIII; the Eastern Schism.
2 hours a week.

20. **Selected Questions from the Contemporary and Modern Periods:** Humanism; Avignon Papacy; western schism; Conciliarism; Renaissance; the rise and spread of Protestantism; the Catholic Reformation; Treaty of Westphalia. The decline of the Church; absolute state and secularism; French Revolution; the 19th and 20th century revival; Liberalism, Modernism, Communism, etc.
2 hours a week.

30a. **The History of the Congregation of the Most Holy Redeemer:** The origins, the development in Italy and Europe. The spread of the Congregation, with emphasis on the United States and Canada. 5 hours a week for six weeks.

DOGMATIC THEOLOGY

I. Dogmatic Theology

10. The Nature of Theology; credibility of revelation proposed by the Catholic Church. The Mystical Body of Christ; fundamental dogma, i.e. theological fonts: Sacred Scripture and tradition; methodology.
4 hours a week.

20. The Unity of God; divine attributes; the Trinity. Creation, general and special; Cosmogony, angels and men; the elevation and fall of man in the supernatural order; Eschatology.
4 hours a week.

30. Sanctifying Grace; justification; divine adoption; indwelling of the Trinity; merit, actual grace; the problem of free will. Christology and Mariology.
4 hours a week.

40. Infused Virtues and Gifts: the virtues and the gifts in general, and Faith, Hope and Charity in particular. The seven sacraments of the Church.
4 hours a week.

II. Spiritual Theology

10a. **Introduction to Ascetical Theology.** History; basic principles and their application in spiritual direction.
5 hours a week for six weeks.

20. **Introduction to Mystical Theology.** History; basic principles, and their application in spiritual direction.
5 hours a week for six weeks.

Moral Theology

10. **General Introduction:** Distinctive Christian ideal and character. Final destiny of man. Human acts. Norms of morality. Sin. Virtue; faith, hope, charity.
4 hours a week.

20. **Moral Requirements of the Virtues of Religion.** Piety, obedience, respect for human life and personal integrity; the first five commandments. Virtues of chastity and modesty. Nature, ends and essential properties of marriage. The sixth and ninth commandments.
4 hours a week.

30. **Moral Requirements of the Virtue of Justice:** Seventh, eighth, and tenth commandments. Moral obligations arising from the precepts of the Church.
4 hours a week.

40. **Moral Implications of the Most Blessed Sacrament as Sacrifice and Sacrament.** The Sacraments of Penance and Extreme Unction. Obligations of the clerical life.
4 hours a week.

PASTORAL THEOLOGY

I. Liturgy

10a. **Theological Principles of the Liturgy.** The definition and history of liturgy. Place of sign and symbols; efficacy of these signs and symbols in sanctity and cult. Priethood and sacrifice. Liturgy and Sacred Scripture. Liturgy in the Fathers of the Church and the theologians. Liturgy and the history of salvation.
2 hours a week, one semester.

20a. **A Study of the Sacrifice of the Mass, Sacraments, Sacramentals, Divine Office, and Liturgical Year,** from an historical, theological, and pastoral point of view, as found in the texts of the Roman missal, the ritual and the breviary. An introduction to the liturgy of the oriental rites.
2 hours a week, one semester.

II. Pastoral Theology

10b. **General Introduction, Definition and History.** Characteristics, advantages and disadvantages of present methods. Study of total human life in relation to pastoral work; supernatural and natural aspects: the supernatural is treated under the titles of Theological, Christological, Ecclesial, and Philanthropic; the natural under the divisions of Intellectual Life, Affective Life, and Physical Life.
2 hours a week, one semester.

20b. **Hierarchy in Pastoral Work.** A study of bishop and diocese, priest and parish, laity and apostolate. Treatment of the relationship of the religious life and apostolic work.
2 hours a week, one semester.

30b. **Pastoral Psychology and Pastoral Sociology.**
2 hours a week, one semester.

40b. **Catechetics.** History of catechetics and various methods. Basic principles and special techniques. Field work: teaching in local parochial school. Methods of catechetical instruction of adults. The theology of preaching and of missions. Practical directives for pastoral work in general.

2 hours a week, one semester.

50a. **The Church and Current Social Problems,** as these affect the universal mission of the Church.

5 hours a week for six weeks.

50b. **The Church and Particular Social Problems** as they affect the parochial life of the Church, especially in Canada. The Redemptorist missions and social problems.

5 hours a week for six weeks.

60a. **Missiology:** An introduction to the mission life in foreign countries. A study of the background, history and culture of peoples in mission areas, with a special emphasis on Japan.

5 hours a week for six weeks.

III. Sacred Eloquence

10a. **Theory and Practice of Sermon Composition and Delivery.**
1 hour a week.

20a. **Theory and Practice of Sermon Composition and Delivery.**
1 hour a week.

30a. **Theory and Practice of Sermon Composition and Delivery.**
1 hour a week.

40a. **Theory and Practice of Sermon Composition and Delivery.**
1 hour a week.

SACRED SCRIPTURE

10a. **Inspiration.** Canon of Sacred Scripture. Texts and versions of Sacred Scripture. Textual criticism. Rules of interpretation. History of Exegesis. The senses of Scripture.

2 hours a week, one semester.

15. **Book of Exodus;** Genesis 12-50; the former prophets. Israel becomes a Kingdom; the Yahwist literature; the Latter prophets; the Elohist.

3 hours a week.

20. **The Gospels as Salvation**—History; the Synoptic Gospels; Johannine literature.

3 hours a week.

30. **The Last Years of the Kingdom of Juda;** the restoration. The Sapiential literature.

3 hours a week.

40. **Acts of the Apostles;** Epistles of St. Paul; Epistle to the Hebrews; the Catholic Epistles.

3 hours a week.

EXTENSION DIVISION

Assumption University of Windsor offers instruction in the evening and on Saturday mornings for the benefit of teachers, business men and others whose occupations prevent them from attending day classes. Courses offered are intramural and are applicable towards degrees, diplomas and certificates. Instruction is given in each subject one evening per week or each Saturday morning throughout the academic year.

SUMMER SCHOOL

Instruction is offered in a Summer School of six weeks, usually commencing the first Monday in July. Students may take a maximum of two full courses in one summer session. This summer session is intended primarily for the benefit of persons who are unable to attend the regular winter sessions as full-time students. Hence a student who has been in attendance full-time the previous academic year may attend the Summer School for credit only to make up deficiencies and with permission of his Dean. Students proceeding to degrees at other Universities may attend the Summer School at Assumption with permission of the appropriate officials of the institutions concerned.

N.B. A candidate for a degree may be excused attendance for one full academic year or the equivalent through the transfer of credit obtained by correspondence with another university, but he must attend intramural classes at this University for two full academic years, or for one full academic year and two summer sessions, or for five summer sessions. This requirement is reduced to a minimum of one full winter session or three summer sessions by the transfer of credit obtained by attendance at intramural classes of other approved colleges or universities. (Attendance in the Evening Division or as a part-time student in the regular winter session (days) is the equivalent for purposes of this regulation of attendance at the summer session).

For subjects offered in the Extension Division and in Summer School, and for additional information, consult the Director of Extension, Assumption University of Windsor, Windsor, Ontario (phone CLearwater 4-9246, extension 205). Registration dates:

Summer School: 1960, July 4; 1961, July 3.

Evening and Saturday Morning Division: 1960, September 21, 22, 23, 24.

Prospective students are strongly advised to contact the Registrar's Office in advance of these dates.

SUMMARY OF REGISTRATION, 1959-60

Regular Winter Session	Men	Women	Total
Full Time:			
Preliminary Year	90	39	129
Nursing Diploma Year	0	6	6
First Year	243	61	304
Second Year	236	42	278
Third Year	194	36	230
Fourth Year	25	4	29
Graduate Years	25	1	26
	813	189	1002
Part Time	28	13	41
	841	202	1043

Extension Courses	Men	Women	Total
Summer School	237	135	372
Evening and Saturday Morning	594	227	821
Non-credit	446	26	472
	1277	388	1665
Gross Totals	2118	590	2708
Duplicates	132	65	197
Net Totals	1986	525	2511

INSTITUTIONS OF HIGHER LEARNING OPERATED BY THE BASILIAN FATHERS

St. Michael's College
(founded 1852)
federated with the University of Toronto
Toronto, Ontario

Assumption University of Windsor
(founded 1857)
Windsor, Ontario

St. Basil's Seminary
(founded 1926)
Toronto, Ontario

The Pontifical Institute of Mediaeval Studies
(founded 1929; Papal charter 1939)
Toronto, Ontario

St. Thomas More College
(founded 1936)
affiliated with the University of Saskatchewan
Saskatoon, Saskatchewan

University of St. Thomas
(founded 1947)
Houston, Texas

St. John Fisher College
(founded 1949)
Rochester, New York

St. Mark's College
(founded 1956)
affiliated with the University of British Columbia
Vancouver, British Columbia

FORMS OF BEQUEST

I bequeath to the Governors of Assumption University of Windsor, Windsor, Ontario, the sum of $.. for the general purposes of the University.

I give, devise and bequeath to Essex College, Windsor, Ontario, the sum of $.. to be used for such purposes as the Board of Directors of the said College may, in its sole discretion, determine.

I bequeath to the Directors of Holy Names College, Windsor, Ontario, the sum of $.. for the general purposes of the College.

I bequeath to the Directors of Canterbury College, Windsor, Ontario, the sum of $.. for the general purposes of the College.

I bequeath to the Directors of Holy Redeemer College, Windsor, Ontario, the sum of $.....................................for the general purposes of the College.

The following is provided for the convenience of benefactors resident in the United States:

I give and bequeath to Friends of Assumption, Inc., a Michigan corporation, the sum of $..............................to be used for such general purposes of Assumption University of Windsor as the corporation's Board of Directors may direct.

INDEX

Page
Academic Regulations 44
Admission Requirements 40
Advisory Council 14
Armorial Bearings 4
Athletics 22
Bachelor of Applied Science 161
Bachelor of Arts 63
Bachelor of Commerce 79
Bachelor of Science 83
Bachelor of Science in Nursing 94
Basilian Institutions 215
Bursaries 29
Calendar 7
Canterbury College 11, 18, 44
Certificate in Business Administration 81
Christian Culture Series 20
Counselling 26

Details of Subjects:
  Anthropology 96
  Biology 96, 196
  Botany 97
  Business Administration 103, 195
Chemistry 108, 197
  Classics 112
  Economics 113,190
  Engineering 168, 203
  English 117, 191
  Fine Arts 119
  French 132
  Geography 119
  Geology 120
  German 133
  Greek 112
  History 121, 191
  Home Economics 124
  Italian 134
  Latin 112
  Library Science 125
  Mathematics 126, 200
  Modern Languages 132
  Music 136
  Nursing 137
  Philosophy 139, 192
  Physics 143, 201
  Political Science 116, 190
  Psychology 147, 192

INDEX

Page
- Religious Knowledge ... 150
- Russian ... 134
- Sociology ... 152
- Spanish ... 134
- Speech ... 153
- Zoology ... 99

Diploma Courses:
- Management ... 81, 195
- Nursing Education ... 95
- Public Health Nursing ... 95

Discipline ... 21
Doctor's Degree in Chemistry ... 205
Employment ... 25
Engineering Courses: (undergraduate) ... 161
- Chemical ... 163
- Civil ... 164
- Electrical ... 165
- Mechanical ... 166
- Engineering Physics ... 167

Enrolment ... 214
Essex College ... 9, 18, 19, 44
Extension ... 213
Faculty of Arts and Science:
- Details of subjects ... 96
- Faculty Council ... 50
- Officers of Instruction ... 50
- Particular Regulations ... 60
- Programs of Study ... 63
- Semester-hour Equivalents ... 154

Faculty of Applied Science:
- Details of subjects ... 168
- Faculty Council ... 158
- Officers of Instruction ... 158
- Particular Regulations ... 160
- Programs of Study ... 161
- Semester-hour Equivalents ... 178

Faculty of Graduate Studies:
- Faculty Council ... 180
- Officers of Instruction ... 181
- Programs of Study ... 189

Faculty of Theology ... 208
Fees ... 27
Financial Aid for Students ... 29
Forms of Bequest ... 216
General Information ... 19
Governors, Board of ... 8

INDEX

Page
Graduate Studies: 180
  Biology 196
  Business Administration 193
  Chemistry 197, 205
  Economics 189
  Engineering 202
  English 191
  History 191
  Mathematics 200
  Philosophy 192
  Physics 201
  Psychology 192

Guidance 26
Historical Statement 17
Holy Names College 10, 18, 19, 44
Holy Redeemer College 10, 18, 44

Honours Courses:
  Biology 86
  Business Administration 79
  Chemistry 87
  Chemistry and Biology 88
  Chemistry and Physics 89
  Economics and Political Science 66
  English Language and Literature 67
  English and French 68
  English and History 69
  English and Philosophy (Philosophy option) 70
  English and Philosophy (Language option) 71
  English and Spanish 72
  French and Spanish 73
  History (Economics option) 74
  History (Philosophy option) 75
  Mathematics 91
  Philosophy (Science option) 76
  Philosophy and Psychology 77
  Physics 93
  Psychology 78

Library 16, 19
Loan Funds 37
Master of Applied Science 202
Master of Arts 189
Master of Business Administration 193
Master of Science 196
Military Training 16, 22
Nursing 94

INDEX

Officers of Administration 15
Pharmacy 85
Preliminary Year 42
Pre-Medical Technology 84
Pre-Medicine 85
Pre-Optometry 84
Prizes 38
Regents, Board of 8
Registration 214
Residence Facilities 26
Scholarships 29
Senate 12
Student Services 25
Summer School 213
Teachers' Courses and Certificates 47
University College 18, 44

200 a Hwang

12½

202b Chemicals
201b
305 ME

Bruckman or Pflanzer

200 a
202 b circuits
~~203 b machines~~
201 b
3.05

2½

Huschelt
203.b DC
303.b ACI
~~203 ACII~~
~~209~~ comm .3 - 3

.304 a

1/2

PRINTED BY THE WINDSOR STAR